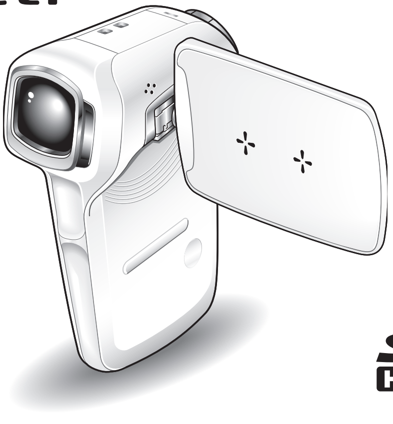
SANYO

INSTRUCTION MANUAL

VPC-CG9EX
VPC-CG9
VPC-CG9GX

Digital Movie Camera

Xacti



Important note

This manual explains how to safely operate the VPC-CG9EX, VPC-CG9 and VPC-CG9GX.
Any information regarding only one of these products will be labeled as such.

Please read these instructions carefully before using the camera.
Make sure to read and understand the separate booklet “SAFETY MANUAL”.
Keep this manual in a safe place for later reference.

Symbols used in this manual

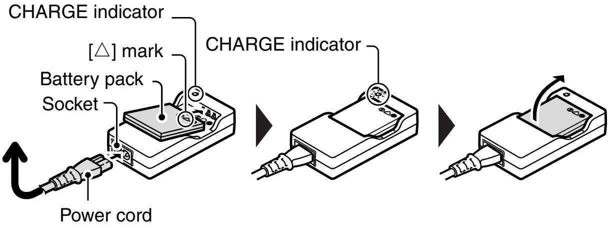
HINT	Points giving some extended instructions or special points to pay attention to.
CAUTION	Points that require special attention.
(page xx)	Refer to the page indicated for detailed information.

You may find the answers to questions or problems concerning camera operation in the sections “COMMONLY ASKED QUESTIONS” (page 180) and “TROUBLESHOOTING” (page 187).

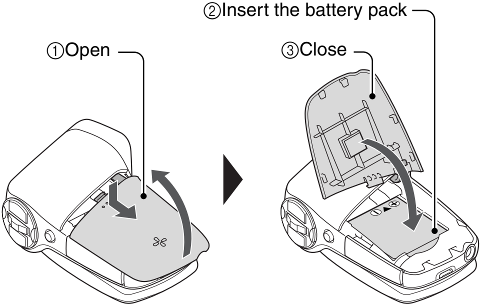
SHOOT, PLAY BACK AND SAVE

Prepare the battery pack

1 **Charge the battery pack.**
The CHARGE indicator shows the battery pack charge status.
- Lights red during recharging.
- Turns off when battery pack is fully charged.
- The charging time is approx. 90 minutes.



2 **Insert the battery pack.**



SHOOT, PLAY BACK AND SAVE

Before capturing those important shots, be sure to first take a test shot to confirm that your camera is set up and ready to go

- Sanyo declines any claim for compensation for recorded contents etc. in case of photographing or recording failure due to a chance camera or card flaw.

Shooting

1 Open the monitor unit, and press the ON/OFF button for at least 1 second to turn the camera on.

- If the screen to set the date and time appears, press the MENU button 2 times to cancel it.
  For how to set the date and time, see page 32.

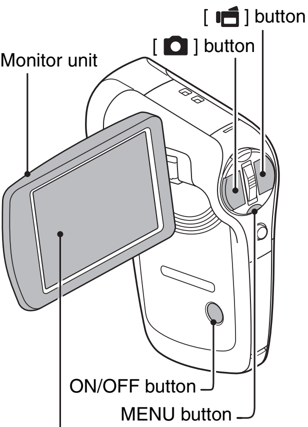
2 Record.

To record a video clip:

- Press the [ ] button to begin recording a video clip.
- Press the [ ] button again to end the recording.

To take a photo:

- Press the [ ] button.
- A still image is captured.





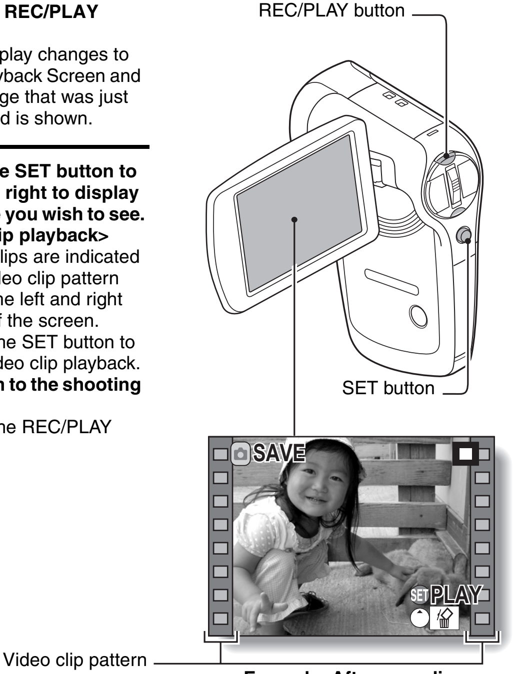
<Shooting Mode Screen>

Playback

1 **Press the REC/PLAY button.**
- The display changes to the Playback Screen and the image that was just captured is shown.

2 **Toggle the SET button to the left or right to display the image you wish to see.**
<Video clip playback>
- Video clips are indicated by a video clip pattern along the left and right sides of the screen.
- Press the SET button to start video clip playback.

<To return to the shooting mode>
- Press the REC/PLAY button.



<Example: After recording a video clip>

When you are finished using the camera...

Press the ON/OFF button for at least 1 second to turn the camera off.

SHOOT, PLAY BACK AND SAVE

Copy files to the computer (Windows XP)

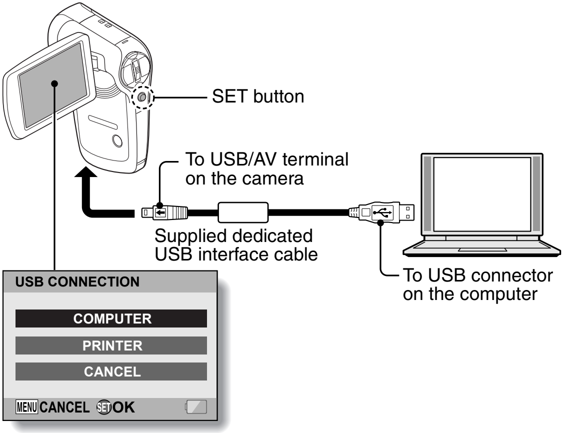
Connect your camera to a computer, and copy files to the computer.

1 **Turn on the computer, and use the supplied dedicated USB interface cable to connect your camera to the computer.**

- Connect the cable between the camera's USB/AV terminal and the computer's USB connector.

2 **Turn on the camera (page 29).**

- The USB Connection Screen appears on the camera's monitor.



3 **Select "COMPUTER", and press the SET button.**

- The screen to select the computer connection mode appears.

4 **Select “CARD READER”, and press the SET button.**

- The message [Found New Hardware] appears in the task tray, showing that the camera is recognized as a drive.
- The card is recognized (mounted) as a disk, and the [XACTI_INT (E:)] icon appears in the [My Computer] window.
  * The drive name (E:) may be different on your computer.

<If the access menu (page 168) appears>

- Click on [Exit] to cancel the access menu.

5 **Select an action.**

- If the [XACTI_INT (E:)] window appears automatically, select the desired procedure from the window.

Dismounting the camera

CAUTION

- To disconnect your camera, be sure to follow the procedure below. Failure to follow this procedure may cause faulty operation of your computer or corrupt the files in your camera.

1 **Left-click on the icon for safely removing hardware in the task tray.**

- A list appears showing the devices connected to the computer’s USB connector.

<Windows Vista>

- Close the window.

2 **Left-click on the camera drive (E:).**

- The camera can now be disconnected.
  * The drive name (E:) may be different on your computer.

No software is included with this camera. Instructions for obtaining the software can be found on page 167.

CONTENTS

■ SETUP

■ SIMPLE

SHOOTING

PLAYBACK

CONTENTS

■ NORMAL

■ OPTION SETTINGS

CONTENTS

■ OTHER DEVICES AND CONNECTIONS

■ APPENDICES

QUICK SEARCH BY OPERATION

Your camera has an abundance of convenient features and functions. From creating precisely the photo you want, to viewing images using various techniques, you can locate the exact operation for your purposes in the following table.

<table>
<tr><th colspan="3">Shooting/recording</th></tr>
<tr><th>Basic operation</th><th>Convenient functions</th><th>Additional functions</th></tr>
<tr>
<td>Getting started shooting/recording
• “VIDEO CLIP RECORDING” on page 60
• “SHOOTING SINGLE SHOTS” on page 61
• “Sequential shots” on page 80
• “Audio recording” on page 81</td>
<td>Log the date and time of your photos
• “DATE AND TIME SETTING” on page 32
Zoom in on the subject
• “MACRO-PHOTOGRAPHY (ZOOM)” on page 67
Close-up photography
• “Select the focus setting” (super macro mode) on page 57
• “FOCUS RANGE” (super macro mode) on page 93</td>
<td>For more accurate focus
• “How to use the manual focus” (manual focus) on page 94
Set the focus to a narrow range
• “FOCUS MODE” on page 95
Reduce noise when recording
• “NOISE-REDUCTION FUNCTION” on page 137</td>
</tr>
<tr>
<td>Optimize the photo quality
• “Select the recording size” on page 56
• “RECORDING SIZE” on page 78</td>
<td colspan="2">Reduce video clip flicker
• “FLICKER-REDUCTION” on page 139
Set the camera’s color/contrast characteristics
• “ADJUST THE IMAGE QUALITY” on page 138</td>
</tr>
</table>

<table>
<tr><th colspan="3">Shooting/recording</th></tr>
<tr><th>Basic operation</th><th>Convenient functions</th><th>Additional functions</th></tr>
<tr><td colspan="3">Capture fast-moving subjects
• “SCENE SELECT” (sports mode) on page 84
Suppress camera shake effect
• “Compensate for camera shake during video clip recording” on page 90
• “Compensate for camera shake during still image shooting” on page 90</td></tr>
<tr><td colspan="3">Shoot in dark conditions
• “EXPOSURE COMPENSATION” on page 104
• “Using the flash” on page 63
• “FLASH OPERATION” on page 87
• “SCENE SELECT” (night view portrait mode/fireworks mode/lamp mode) on page 84</td></tr>
<tr><td></td><td colspan="2">Increase the camera’s sensitivity
• “ISO SENSITIVITY” on page 97
• “HIGH SENSITIVITY MODE” on page 101</td></tr>
<tr><td colspan="3">Photographing people
• “SCENE SELECT” (portrait mode/night view portrait mode) on page 84
• “FILTERS” (cosmetic filter) on page 86
Sharp face shots
• “FACE CHASER” on page 100</td></tr>
<tr><td colspan="3">Simplified operation for shooting/playback
• “Switching between the SIMPLE and NORMAL modes” on page 36</td></tr>
</table>

QUICK SEARCH BY OPERATION

<table>
<tr><th colspan="3">Shooting/recording</th></tr>
<tr><th>Basic operation</th><th>Convenient functions</th><th>Additional functions</th></tr>
<tr><td colspan="3">Photographing landscapes
• “SCENE SELECT” (landscape mode) on page 84</td></tr>
<tr><td colspan="3">Take a self-photo
• “SELF-TIMER” on page 88</td></tr>
<tr><td rowspan="2"></td><td>Make images lighter or darker
• “EXPOSURE COMPENSATION” on page 104
• “HIGH SENSITIVITY MODE” on page 101</td><td>Measure the brightness of a specific area
• “LIGHT-MEASURING MODE SETTING” on page 96
Adjust the camera’s sensitivity
• “ISO SENSITIVITY” on page 97</td></tr>
<tr><td>Change the color of the images
• “FILTERS” (monochrome filter/sepia filter) on page 86</td><td>Make white appear natural
• “WHITE BALANCE” on page 99</td></tr>
</table>

<table>
<tr><th colspan="3">Playback</th></tr>
<tr><th>Basic operation</th><th>Convenient functions</th><th>Additional functions</th></tr>
<tr><td>Getting started viewing images
• “PLAYING BACK VIDEO CLIPS AND STILL IMAGES” on page 68</td><td>Adjust the speaker volume
• “PLAYBACK VOLUME” on page 72
Search for image/ audio files
• “Multi-image display” on page 75
• “Selecting the playback folder” on page 76
Magnify an image
• “Magnifying (zooming in) the image” on page 77</td><td>Change the angle of view
• “ROTATE STILL IMAGE” on page 108</td></tr>
<tr><td>• “Audio playback” on page 82</td><td colspan="2">Adjust the speaker volume
• “PLAYBACK VOLUME” on page 72</td></tr>
<tr><td colspan="3">Continuous playback
• “SLIDESHOW PLAYBACK” on page 71 and 105</td></tr>
<tr><td colspan="3">Adjust the monitor brightness
• “MONITOR BRIGHTNESS” on page 140</td></tr>
<tr><td colspan="3">Playback on a TV
• “PLAYING BACK ON A TV” on page 156
Set the TV system
• “CONNECTING TO A TV” on page 155 and “PLAYING BACK ON A TV” on page 156</td></tr>
</table>

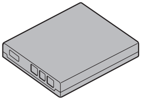
QUICK SEARCH BY OPERATION

File managing/processing		
Basic operation	Convenient functions	Additional functions
Search for image/audio files • "Multi-image display" on page 75 • "Selecting the playback folder" on page 76		
Delete files • "DELETING FILES" on page 73	**Protect files from accidental erasure** • "FILE PROTECT" on page 107 **Format a card** • "FORMATTING A CARD" on page 148	
Delete a part of a video clip and join video clips • "EDITING VIDEO CLIPS" on page 112		
Specify the number of prints, index print, and date imprint • "PRINTING INSTRUCTIONS" on page 120		
Repair the "red-eye" caused by the flash, or enhance the contrast • "CORRECTING THE RED-EYE EFFECT AND IMAGE BLUR" on page 110		
View the settings that were in effect when the image/audio files were recorded • "DISPLAYING FILE PROPERTIES (INFORMATION SCREEN)" on page 128		

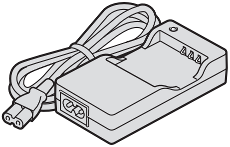
<table>
<tr><th colspan="3">Using with a computer</th></tr>
<tr><th>Basic operation</th><th>Convenient functions</th><th>Additional functions</th></tr>
<tr><td colspan="3">Use the camera as a card reader
• “USING AS A CARD READER” on page 160</td></tr>
<tr><td colspan="3">Use your computer to organize/edit files that were recorded with your camera
• “USING THE SOFTWARE” on page 166</td></tr>
<tr><td>Copy data from your camera to a computer
• “Copy files to the computer (Windows XP)” on page v
• “OPERATING ENVIRONMENT” on page 157
• “SETTING THE CONNECTION MODE” on page 158</td><td colspan="2">Using with Windows Vista
• “SETTING THE CONNECTION MODE” on page 158</td></tr>
<tr><td colspan="3">Playback
• “About video clip files recorded with this camera” on page 164</td></tr>
<tr><td colspan="3">Using as a webcam
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<tr><td colspan="3">Record an image of the computer screen
• “SAVE AN IMAGE OF YOUR COMPUTER SCREEN” on page 170</td></tr>
</table>

CHECKING THE INCLUDED ACCESSORIES

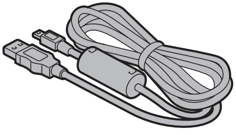
- **Li-ion battery pack (pages 23 and 26): 1**



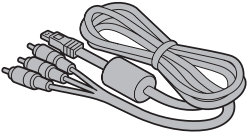
- **Lithium-ion battery pack charger and power cord (page 23): 1**



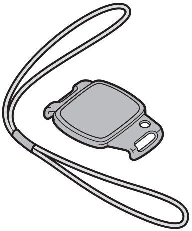
- **Dedicated USB interface cable (pages 158 and 172): 1**



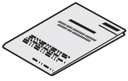
- **Dedicated AV interface cable (page 155): 1**



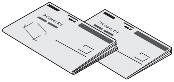
- **Lens cap (page 15): 1**



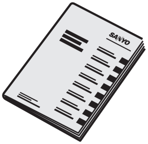
- **"SAFETY MANUAL" (safety precautions booklet) Please read this booklet carefully before using the camera.**



- **Quick Guide**

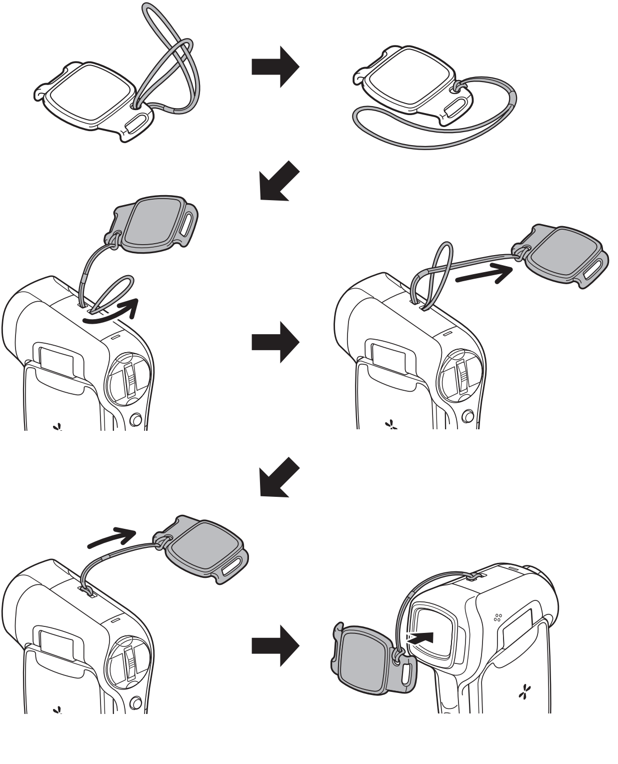


- **Obtaining the PDF instruction manual and cautions**

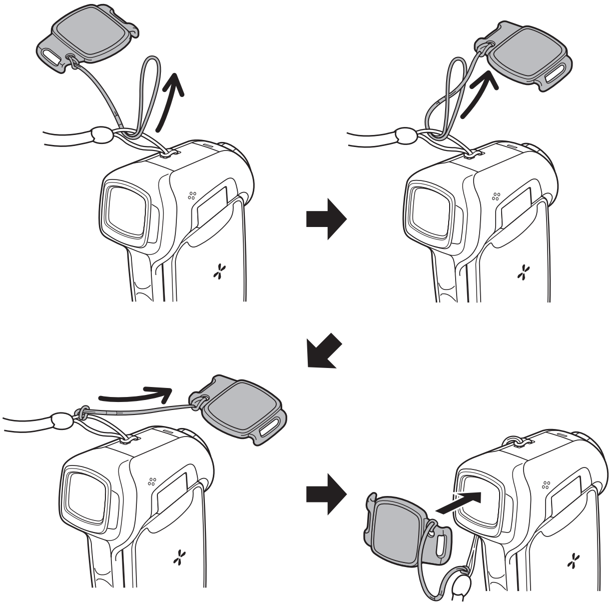


CHECKING THE INCLUDED ACCESSORIES

■ How to attach the lens cap



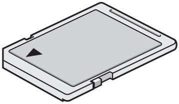
<When used with a commercially available handstrap>



CHECKING THE INCLUDED ACCESSORIES

Media cards that can be used with this camera

The type of card that can be inserted into and used with this camera is:
- SD Memory Card
- SDHC Memory Card



What "card" means in this manual

- In this manual, SD Memory Cards and SDHC Memory Cards that can be used in this digital camera are referred to as "card".

GETTING THE MOST OUT OF YOUR CAMERA

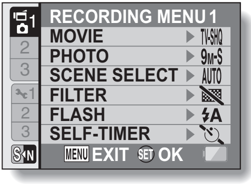
As well as photographing still images and recording video clips, your digital movie camera can even capture still images while you're recording a video clip. In one compact body you get sophisticated but easy-to-use features such as the "SIMPLE mode" that gives you beautiful images with a minimum of setup, an image stabilizer that suppresses the effects of camera shake during shooting, "face chaser" for perfectly focused faces, and more.

SIMPLE mode for quick-and-easy operation (page 36)

Select from two operating modes: the "SIMPLE mode" for users new to the camera, and the "NORMAL mode" for full use of all the camera's many features and functions.



<SIMPLE Mode Shooting Menu>



<NORMAL Mode Shooting Menu>

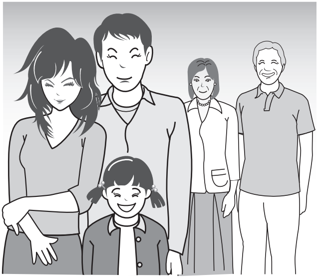
Movie image stabilizer for sharp pictures (page 90)

Your camera can compensate for the camera shake that results in blurry images when you try to capture a fast-moving subject or zoom in on a subject.



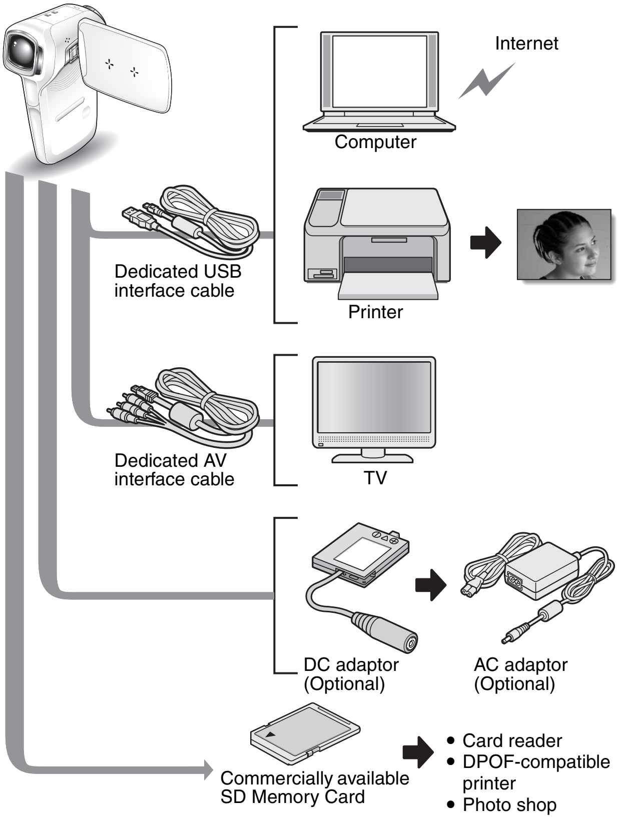
Sharp face shots (page 100)

Your camera is equipped with a face recognition feature which detects the subject's face even when slightly lit from behind or in dim surroundings and automatically adjusts the focus and brightness to compensate. Now those otherwise perfect photos that are marred by shadowed faces can be minimized.



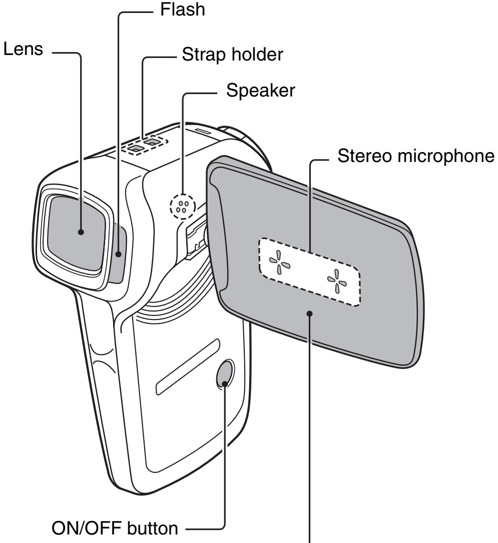
SYSTEM MAP

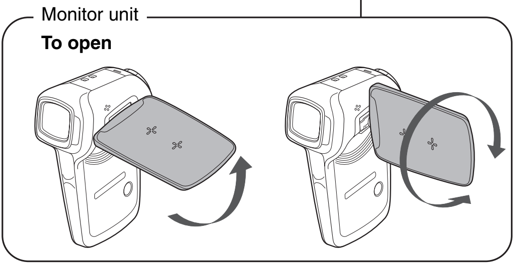
You can connect the camera to various devices to expand its capabilities.



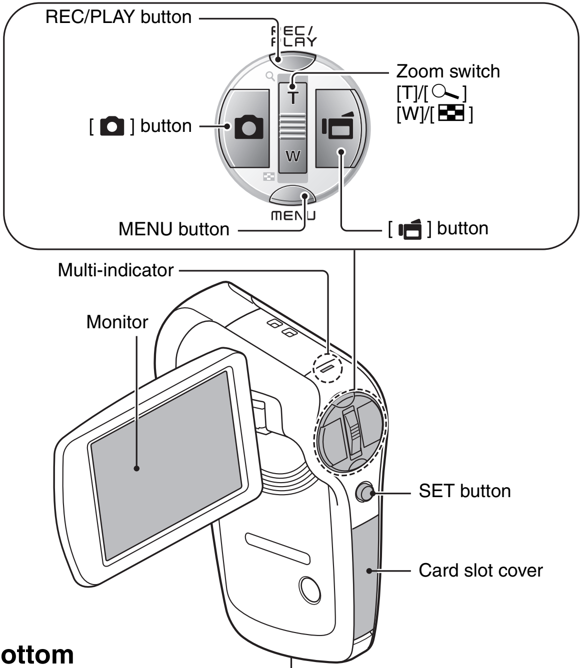
PARTS NAMES

Front



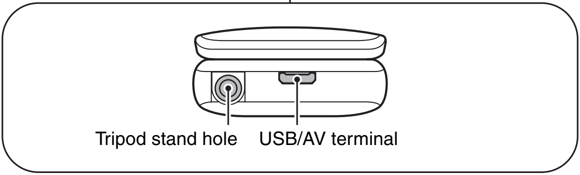


Rear



REC/PLAY button
REC/PLAY
Zoom switch
[T]/[ ]
[W]/[ ]
T
W
[ ] button
MENU
MENU button
[ ] button
Multi-indicator
Monitor
SET button
Card slot cover

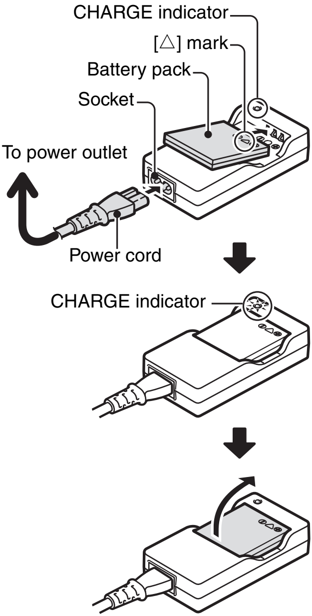
Bottom



Tripod stand hole
USB/AV terminal

CHARGING

Please charge the supplied battery pack before using it.



1 Insert the battery pack in the battery charger.

- Insert it in the direction indicated by the [△] mark on the battery pack.

2 Connect the supplied power cord to the socket on the battery pack charger.

- Insert the connector straight and securely.

3 Plug the power plug into a power outlet (AC 100 V to 240 V).

- Charging begins.
- During charging, the CHARGE indicator is lit red.
- The charging time is approx. 90 minutes.

4 When the CHARGE indicator turns off, unplug the power cord from the power outlet, and remove the battery pack from the charger.

CAUTION

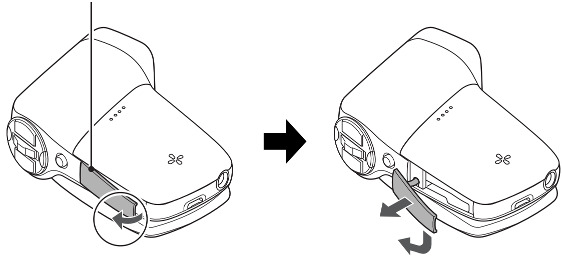
Do not charge the battery pack immediately after the camera has been in continuous use for a long time

- The battery pack becomes hot when the camera is used continuously for a long time. If you attempt to charge the battery pack in this state, the CHARGE indicator may flash red and it may not be possible to charge the battery pack. Wait until the battery pack has cooled down before attempting to charge it.

INSTALL THE CARD

The card can be used after it has been formatted with the camera (page 148).

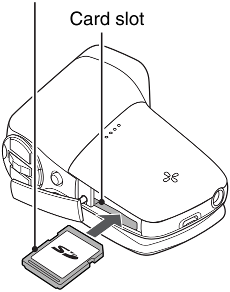
1 Open the card slot cover.



① Release from the bottom end. ② Pull gently, and rotate.

2 Insert the card.

- Firmly insert the card until it clicks into place.

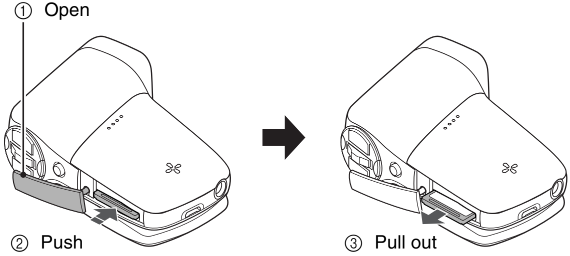


INSTALL THE CARD

3 Close the card slot cover.

<When removing the card...>

- To remove the card, press it down, and then release. The card will protrude slightly, and you can then pull it out.



CAUTION

Do not attempt to forcibly remove the card

- Never remove the card when the multi-indicator is flashing red. In doing so, you risk losing the data stored in the card.

HINT

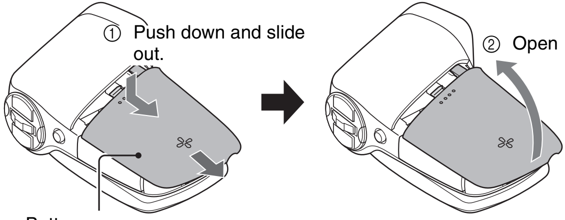
Shooting without a card installed

- When a card is installed, images are recorded to and played back from the card. When no card is installed, images are recorded to and played back from the camera's internal memory. When the camera is turned on with no card installed, the internal memory icon INT is shown on the monitor to let you know that the images you capture will be saved to the camera's internal memory.

INSTALLING THE BATTERY PACK

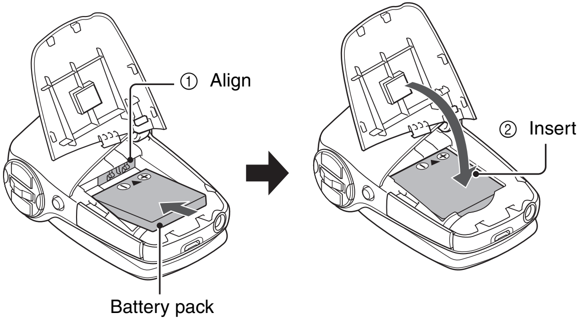
Please charge the supplied battery pack before using it.

1 Open the battery cover.

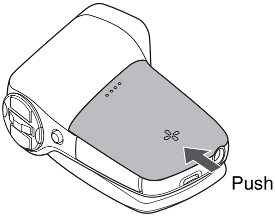


2 Insert the battery pack.

- Take care that it is positioned correctly.

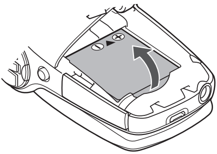


3 Replace the battery cover.

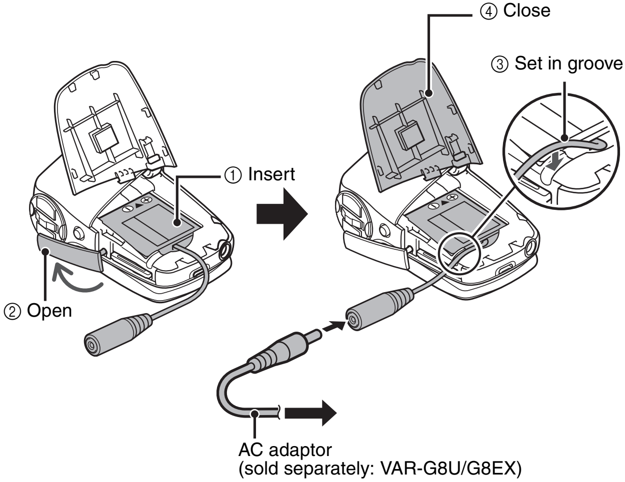


<To remove the battery pack...>

- Raise the edge of the battery pack to remove it.



Installing the DC adaptor (sold separately: VAR-A2U/A2EX)



CAUTION

Does the battery pack appear swollen?

- The lithium-ion battery used in this camera may expand slightly when stored in a hot environment or repeatedly used, but this is not a safety hazard.

HINT

About the internal backup battery

- This camera's internal battery serves to maintain the date and time settings, as well as the shooting settings. The backup battery will be fully charged when the battery pack is kept in the camera continuously for about 2 days. In the fully charged state, the backup battery will maintain the camera settings for about 7 days.

When not using the camera for a long time, remove the battery pack

- A small amount of power is still used even if the camera is turned off, and it is therefore recommended that the battery pack be removed from the camera if it is not going to be used for a long time. Note that when the battery pack is removed for a long period, the time and date settings may be cleared. Before using your camera again, be sure to confirm that the camera settings are correct.

To prolong the life of the battery pack

- Although the battery pack is an expendable item, you can maximize the life of the battery by heeding the following suggestions.
  - Do not leave the battery under the hot summer sun or exposed to other high-temperature environments.
  - Do not continually recharge the battery when it is already fully charged. After fully charging it once, for example, use it for a while to partially discharge it before recharging it again.
  - When the battery is not to be used for a long time, if possible store the partially charged (not fully charged) battery in a cool environment.

Warning concerning battery pack temperature

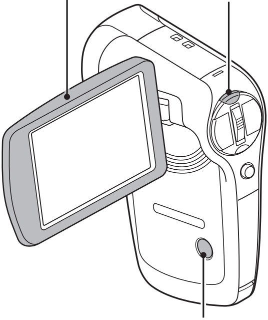
- If the battery pack in the camera becomes too hot, a blinking temperature warning icon will appear on the monitor. If the blinking icon does appear, the camera should be turned off as soon as possible and the battery pack allowed to cool before the camera is turned on again.
- Note that the camera will turn off automatically if it continues to be used with the battery pack temperature elevated.
- If you attempt to turn on the camera when the battery pack temperature is too high, the temperature warning icon will blink and the camera will not turn on.

TURNING THE CAMERA ON AND OFF

Turning on the camera

1 Open the monitor unit, and press the ON/OFF button for at least 1 second.

- The camera turns on.
- If the date and time have not been set, the screen to set the date and time is shown on the monitor (page 32).



In the playback mode

1 Press the REC/PLAY button for at least one second.

- The Playback Screen appears on the monitor (page 68).
- Pressing the REC/PLAY button again will change the display to the shooting screen.

Turning on the camera when the power save (sleep) mode is active

In order to preserve battery pack power, the power save (sleep) function will automatically turn off the camera after 1 minute of no use during shooting, or 5 minutes of no use during playback (factory-preset setting).

- When the power save mode is active, you can restore the power by any of the following methods:
  - **Press the REC/PLAY button.**
  - **Press the ON/OFF button.**
  - **Press the [ ] or [ ] button.**
  - **Press the SET or MENU button.**
  - **Push the zoom switch.**

  * When the MENU button is used to turn on the camera, the screen to set the operation sounds (page 132) appears.
- After the power save mode has been active for about 1 hour, the camera will switch to the standby mode. In this case, you can restore the power by pressing the ON/OFF button, or by closing and then opening the monitor unit.
- The user can specify the time elapsed before the power save mode is activated (page 143).
- When the camera is connected to a computer or printer, the power save mode becomes active after about 12 hours.

Turning off the camera

1 Press the ON/OFF button for at least 1 second.
- The camera turns off.

TURNING THE CAMERA ON AND OFF

HINT

To immediately activate the power save mode

- Press the ON/OFF button briefly to activate the power save function.

About the standby mode

- To turn off the camera only briefly, you can close the monitor unit to put the camera in the standby mode. The standby mode uses almost no power. When the monitor unit is opened again, the camera turns on immediately and you are ready to shoot or view images without any delay.

If the date and time setting has been completed (page 32)

- The current time is shown on the monitor when the camera is turned on.



CAUTION

If the [⏲?] icon appears...

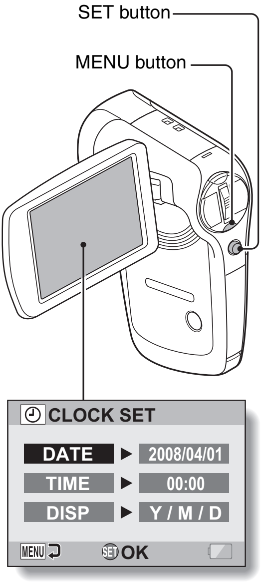
- When a picture is taken, the date and time it was captured are recorded with it. If the date and time settings have not been completed (page 32), the date and time cannot be recorded with the captured images. For this reason, immediately after the camera is turned on, the “Set date and time” reminder briefly appears, after which the [⏲?] icon is shown on the Shooting Screen. To have the date and time recorded with the images, please complete this setting before capturing images.

DATE AND TIME SETTING

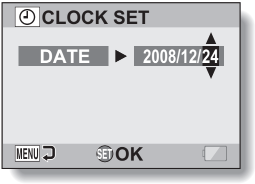
The camera will record the date and time an image or audio recording is taken so that you can display them during playback. Therefore, before capturing images, make sure the correct date and time are set.
* To correct the date and time setting, please see under **HINT** on page 34.

Example: To set the clock to 7:30 p.m. on December 24, 2008

1 **Turn on the camera (page 29), and press the SET button.**
- The Clock Set Screen appears.
- Follow the procedures below to enable or disable the date display during playback, to set the display format for the date, and to set the date and time.
- To display the Recording or Playback Screen, press the MENU button 2 times.



2 Set the date.

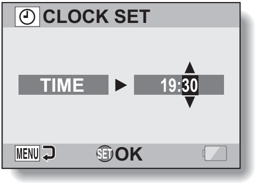


① Select "DATE".
② Press the SET button.
- The Set Date Screen appears.

③ Set the date to "2008/12/24".
- The date is set in the following order: Set the year → Set the month → Set the day.
- Toggle the SET button left or right to select year, month or day. Toggle the SET button up or down to increase or decrease the number.

④ Press the SET button.

3 Set the clock.



① Select "TIME".
② Press the SET button.
- The Set Time Screen appears.

③ Set the time to "19:30".
- The time is set in the following order: Set the hour → Set the minute.
- A 24-hour clock is used for the time display.

④ Press the SET button.

4 Set the order in which the date is displayed during playback.

① Select “DISP”.

② Press the SET button.

- The Set Date Format Screen appears.

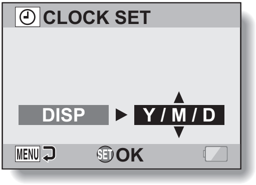
③ Toggle the SET button up or down.

- Toggle the SET button up to change the displayed date order as follows:

→ Y / M / D → M / D / Y → D / M / Y ─┐ (returns to Y / M / D)

Toggle the SET button down to change it in the reverse order.

④ Press the SET button.



5 Press the MENU button.

- The date and time setting is completed.
- To display the Recording or Playback Screen, press the MENU button.

HINT

About the settings backup

- Under normal conditions, while the battery pack is being replaced, an internal battery will maintain the date and time settings. However, there is a small chance the settings may be lost (the backup will last for about 7 days). It is recommended to check that the date and time settings are still correct after replacing the battery pack and before shooting or recording of any type (follow step **1**).

To correct the date and time settings

① Turn on the camera.

② Display the Option Setting Menu [🔧 1] (page 129).

③ Select “CLOCK SET” and press the SET button.

- The screen to set the date and time appears.
- The current date and time settings are shown.

④ Select the line you wish to change, and make the correction.

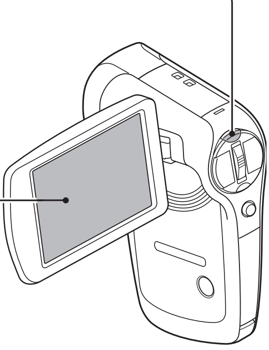
SWITCHING BETWEEN THE SHOOTING MODE AND PLAYBACK MODE

Switch between the shooting mode (for recording) and the playback mode (for viewing your recorded images).

1 Turn on the camera (page 29).

2 Press the REC/PLAY button.

- The mode changes.
- The mode changes each time the REC/PLAY button is pressed.





<Example of the shooting mode>



<Example of the playback mode>

SWITCHING THE OPERATING MODE

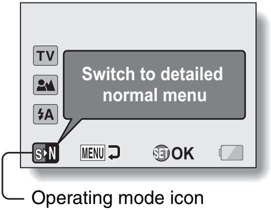
The “SIMPLE mode” comprises only those functions that are most often used and necessary to operate the camera, while the “NORMAL mode” enables full use of all the camera’s many functions. Select the mode that is suitable for your purposes.

Switching between the SIMPLE and NORMAL modes

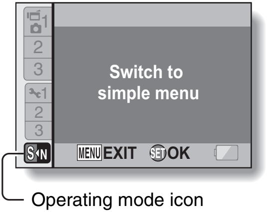
1 **Turn on the camera (page 29).**
- The previous mode is active.

2 **Press the MENU button.**
- The Menu Screen for the active mode appears.

3 **Select the operating mode icon [S▷N], and press the SET button.**
- Switch from the SIMPLE mode to the NORMAL mode, or from the NORMAL mode to the SIMPLE mode.
- Press the MENU button to cancel the Menu Screen.



<SIMPLE Mode Menu Screen>



<NORMAL Mode Menu Screen>

SWITCHING THE OPERATING MODE

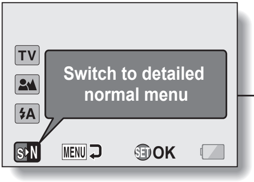
Accessing/exiting the SIMPLE/NORMAL Mode Menu Screen

1 **Set the camera to the shooting or playback mode (page 35).**

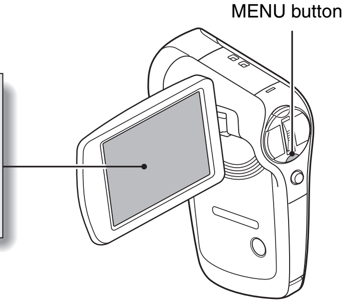
2 **Select the desired operating mode (page 36).**

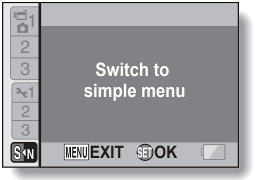
3 **If the Menu Screen is not displayed, press the MENU button.**

- The Menu Screen appears.
- To cancel the Menu Screen, press the MENU button.



<Example: SIMPLE Mode Shooting Menu>



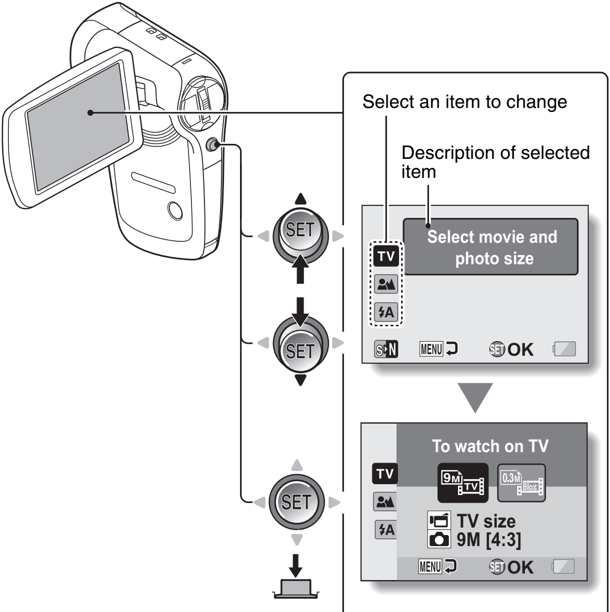


<Example: NORMAL Mode Shooting Menu>

Using the SIMPLE Mode Menu

4 Toggle the SET button up or down to select the item you wish to change, and press the SET button.

- The Setting Screen for the selected item appears.

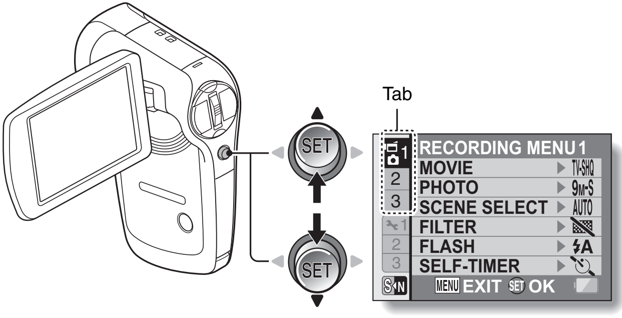


<Setting Screen>

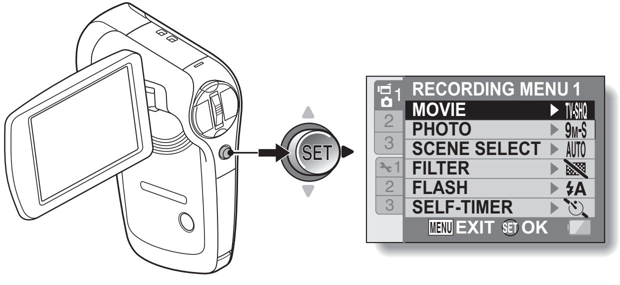
Using the NORMAL Mode Menu

4 Toggle the SET button up or down to select a tab.

- The Menu Screen for the selected tab appears.

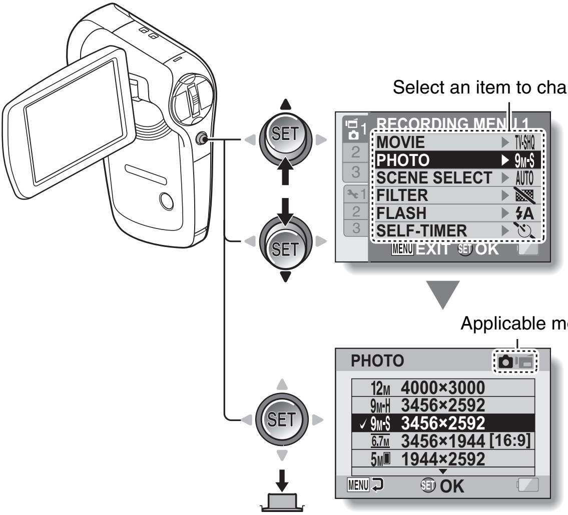


5 Toggle the SET button to the right.



6 Toggle the SET button up or down to select the item you wish to change, and press the SET button.

- The Setting Screen for the selected item appears.
- To return to the Menu Screen, press the MENU button.



<Setting Screen>

SETUP

HINT

About the applicable mode indicator

- This indicator shows the shooting mode(s) for which the selected setting is effective.
  - [still camera icon] : This setting is effective during still image shooting.
  - [video camera icon] : This setting is effective during video clip recording.
  - [still camera icon] [video camera icon] : This setting is effective during still image shooting and video clip recording.

SWITCHING THE OPERATING MODE

Overview of the SIMPLE Mode Setting Screen

SIMPLE Mode Shooting Menu



① **Recording size (page 56)**
- Select the video clip size to record, and the still image size to shoot.

[9M TV]: The video clip size will be 640 × 480 pixels, and the still image size will be 3456 × 2592 pixels.

[0.3M Blog]: The video clip size will be 320 × 240 pixels, and the still image size will be 640 × 480 pixels.

② **Focus range (page 57)**
- Select the focus range that corresponds to the distance to the subject.

[AF]: The camera automatically focuses on the subject within a range of 10 cm (3.94 in.) to infinity (normal).

[Macro]: The camera focuses on a subject within a range of 1 cm (0.39 in.) to 80 cm (31.50 in.) (super macro).

③ **Flash (page 63)**
- Specify how the flash will operate.

[⚡A]: The camera detects the subject brightness and uses the flash only when necessary.

[⚡]: The flash operates with every image captured regardless of the conditions.

[⚡ off]: The flash does not operate even in dark situations.

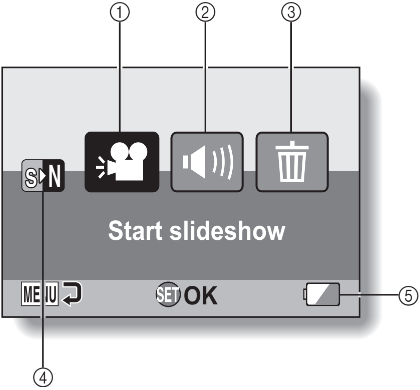
④ **[S▷N] (page 36)**
- Set to the NORMAL mode.

⑤ **Remaining battery power indication (page 153)**

SETUP

SWITCHING THE OPERATING MODE

SIMPLE Mode Playback Menu



① **Slideshow (page 71)**
- Specify the slideshow settings and play the slideshow.

② **Playback volume (page 72)**
- Adjust the volume for video clip and audio file playback.

③ **Delete (page 73)**
- Delete files.

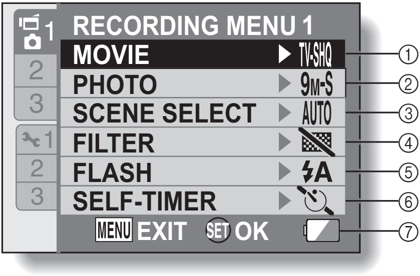
④ S▷N **(page 36)**
- Set to the NORMAL mode.

⑤ **Remaining battery power indication (page 153)**

Overview of the NORMAL Mode Setting Screen

NORMAL Mode Shooting Menu

<Tab 1>



1. **Video clip settings (page 78)**
   - TV-HR: Record at 640 × 480 pixels, 60 frames per second.
   - TV-SHQ: Record at 640 × 480 pixels, 30 frames per second (high bit rate).
   - TV-HQ: Record at 640 × 480 pixels, 30 frames per second (standard bit rate).
   - Web-SHQ: Record at 320 × 240 pixels, 30 frames per second.
   - Web-HQ: Record at 320 × 240 pixels, 15 frames per second.
   - : Make an audio recording.

2. **Still image settings (page 79)**
   - 12M: Image size is 4000 × 3000 pixels.
   - 9M-H: Image size is 3456 × 2592 pixels (low compression).
   - 9M-S: Image size is 3456 × 2592 pixels (normal compression).
   - 6.7M: Image size is 3456 × 1944 pixels (16:9 aspect ratio).
   - 5M: Image size is 1944 × 2592 pixels (portrait orientation).
   - 2M: Image size is 1600 × 1200 pixels.
   - 0.3M: Image size is 640 × 480 pixels.
   - 8M: 3264 × 2448-pixel sequential shots.
   - 2M: 1600 × 1200-pixel sequential shots.

3. **Scene select (page 84)**
   - AUTO: Full auto setting
   - : Sports mode
   - : Portrait mode
   - : Landscape mode
   - : Night view portrait mode
   - : Snow & beach mode
   - : Fireworks mode
   - : Lamp mode

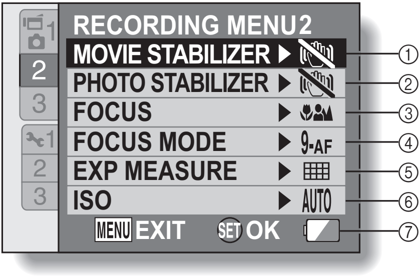
4. **Filter (page 86)**
   - : No filter
   - : Cosmetic filter
   - : Monochrome filter
   - : Sepia filter

5. **Flash (page 87)**
   - A: The camera will detect the subject brightness and use the flash only when necessary.
   - : The flash will operate with every image captured regardless of the conditions.
   - : The flash will not operate even in dark situations.

6. **Self-timer (page 88)**
   - : Self-timer is off.
   - 2: Shooting begins 2 seconds after the [ ] or [ ] button is pressed.
   - 10: Shooting begins 10 seconds after the [ ] or [ ] button is pressed.

7. **Remaining battery power (page 153)**

<Tab 2>


RECORDING MENU2
MOVIE STABILIZER
PHOTO STABILIZER
FOCUS
FOCUS MODE
9-AF
EXP MEASURE
ISO
AUTO
MENU EXIT
SET OK
①
②
③
④
⑤
⑥
⑦

① **Movie stabilizer (page 90)**
- Compensate for camera shake during video clip recording.

[icon A]: Shoot using the video clip field of view display.
[icon B]: Shoot using the still image field of view display.
[icon off]: Image stabilizer function off.

② **Photo stabilizer (page 90)**
- Compensate for camera shake during still image shooting.

[icon]: Shoot with image stabilizer on.
[icon off]: Shoot without image stabilizer.

③ **Focus range (page 93)**
- Select the focus range that corresponds to the distance to the subject.

[icon]: The camera automatically focuses on the subject within a range of 10 cm (3.94 in.) to infinity (total range).
[icon]: The camera automatically focuses on the subject within a range of 80 cm (31.50 in.) to infinity (normal).
MF: Set the focus distance manually (manual).
[icon]: The camera focuses on the subject within a range of 1 cm (0.39 in.) to 80 cm (31.50 in.) (super macro).

④ **Focus mode (page 95)**
9-AF: 9-point range finder focus
S-AF: Spot focus

⑤ **Light-measuring mode (page 96)**
[icon]: Multi-section light measuring
[icon]: Center-weighted light measuring
[icon]: Spot light-measuring

⑥ **ISO sensitivity (page 97)**
AUTO: Sensitivity is set automatically
50: Sets sensitivity to ISO 50
100: Sets sensitivity to ISO 100
200: Sets sensitivity to ISO 200
400: Sets sensitivity to ISO 400
800: Sets sensitivity to ISO 800
1600: Sets sensitivity to ISO 1600

* The indicated ISO value is the standard output sensitivity.

⑦ **Remaining battery power (page 153)**

SWITCHING THE OPERATING MODE

<Tab 3>



① **White balance (page 99)**

AWB: White balance is automatically adjusted depending on the ambient lighting (auto).

: For shooting in sunny conditions (fair)

: For shooting in overcast conditions (cloudy)

: For shooting under fluorescent lighting (fluorescent)

: For shooting under incandescent lighting (incandescent)

: For setting the most accurate white balance (one push)

② **Face chaser (page 100)**

: Enable face chaser.

: Disable face chaser.

③ **High sensitivity mode (page 101)**

HS: Increased sensitivity

: Normal sensitivity

④ **Digital zoom (page 102)**

: Enable the digital zoom.

: Disable the digital zoom.

⑤ **Recording folder (page 103)**

- Create or select a folder in which to store recorded files.

⑥ **Remaining battery power indication (page 153)**

NORMAL Mode Playback Menu

<Tab 1>



① **Slideshow (page 105)**
- Specify the slideshow settings and play the slideshow.

② **Playback volume (page 72)**
- Adjust the volume for video clip and audio files playback.

③ **Protect (page 107)**
- File protect setting (delete prohibited)

④ **Delete (page 73)**
- Delete files.

⑤ **Rotate (page 108)**
- Rotate a still image.

⑥ **Resize (page 109)**
- Reduce the resolution of a still image.

⑦ **Remaining battery power (page 153)**

<Tab 2>



① **Edit photo (page 110)**
- Repair the “red-eye” caused by the flash, or enhance the contrast.

② **Video clip edit (page 112)**
- Edit video clips.

③ **Printing instructions (page 120)**
- Specify the printing instructions (DPOF settings).

④ **Select folder (page 76)**
- Select a folder to play back.

⑤ **Copy (page 126)**
- Copy files from the card to the internal memory, or vice versa.

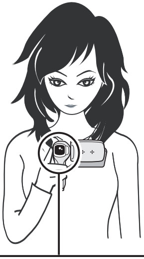
⑥ **Remaining battery power indication (page 153)**

BEFORE TAKING PICTURES

For best results

Hold the camera securely, keeping your elbows close to your body and making sure the camera is stable.

Correct hold

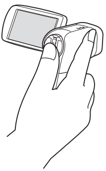


Incorrect hold

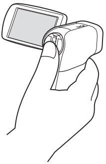


A finger is blocking the lens or flash.

<Holding the camera>



Example 1:
Grip the camera by wrapping the fingers of the right hand, from the little finger to the middle finger, around the camera, and hook the index finger above the camera.



Example 2:
Grip the camera by wrapping the fingers of the right hand, from the little finger to the index finger, around the camera.

Make sure that the lens and flash are not blocked by your fingers or the handstrap.

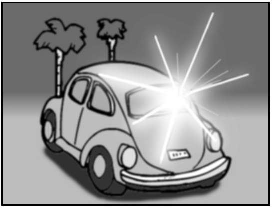
Using the autofocus

The autofocus will work in almost all situations; however, there are certain conditions that may cause the autofocus function to not work properly. If the autofocus function is not working properly, set the focus range to capture images (page 57).

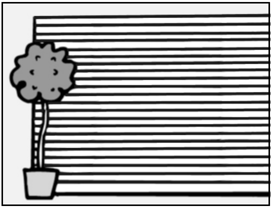
■ Conditions that may cause incorrect focus

The following examples are some of the situations where the autofocus function may not work.

- **Subjects with low contrast, very bright subjects at the center of the image or dark subjects or locations**
  Use the focus-lock function to lock the focus on an object with contrast at the same distance as the desired subject.



- **Subjects without vertical lines**
  Use the focus-lock function to lock the focus while framing the subject vertically, then re-orient the camera to compose a horizontally framed image.



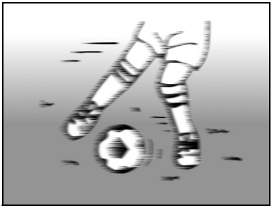
BEFORE TAKING PICTURES

The following examples are some of the situations where the autofocus function may work, but not as desired.

- **When both near and far objects are present**
  Use the focus-lock function to lock the focus on an object at the same distance as the desired subject, then reposition the camera to compose the picture.



- **Fast-moving subjects**
  Use the focus-lock function to lock the focus on an object at the same distance as the desired subject, then reposition the camera to compose the picture.



HINT

- Images captured in the still image shooting mode can be rotated when they are played back (page 108).
- When the [ ] button is pressed halfway, the image in the monitor may waver vertically. This is the result of internal image processing and is not a malfunction. This wavering is not recorded and will not affect your images in any way.
- When the optical zoom is used or when the autofocus is operating, the image may appear to waver, but this is not a malfunction.

Select the recording size

The larger the image size (number of pixels), the better the image quality will be, but the file size will also be larger. Select the image quality that is correct for the intended purpose.

1 **Display the SIMPLE Mode Shooting Menu (page 37), select the recording size setting, and press the SET button.**



- : The video clip size will be 640 × 480 pixels, and the still image size will be 3456 × 2592 pixels.
- : The video clip size will be 320 × 240 pixels, and the still image size will be 640 × 480 pixels.

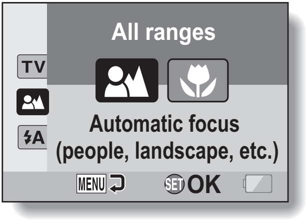
2 **Select the desired video clip recording size, and press the SET button.**

- This completes the recording size setting.

Select the focus setting

Select the focus range corresponding to the distance between the camera and the subject.

1 Display the SIMPLE Mode Shooting Menu (page 37), select the focus setting, and press the SET button.



[normal focus icon]: The camera automatically focuses on the subject within a range of 10 cm (3.94 in.) to infinity (normal).

[super macro icon]: The camera focuses on a subject within a range of 1 cm (0.39 in.) to 80 cm (31.50 in.) (super macro).

2 Select the desired focus range, and press the SET button.

- This completes the focus range setting.

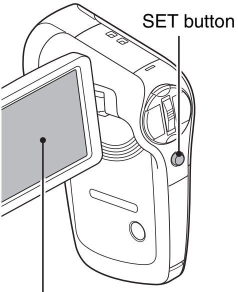
Switching the display mode

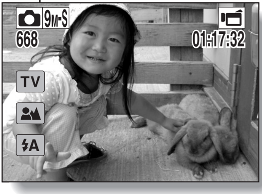
In the shooting mode, you can select the either the “settings display mode” which allows you to confirm the shooting settings on the monitor while you shoot, or the “normal display mode” in which the setting indications are turned off, providing a full view of the subject.

1 **Set the camera to the shooting mode (page 36).**

2 **Press the SET button.**

- Each time the SET button is pressed, the camera switches between the settings display mode and the normal display mode.





<Settings display mode>



<Normal display mode>

Hints for taking pictures

Muting the operation sounds
- The audio guidance that sounds when you operate the camera can be muted (page 132).

Where are the image and audio files saved?
- All the image and sound files are recorded on the card installed in the camera or in the camera's internal memory.

Taking pictures in backlight conditions...
- When taking pictures with the light coming from behind the subject, due to the characteristics of the lens, ghost patterns (flare phenomenon) may appear in the captured image. In this situation, it is recommended that you avoid taking pictures with the subject lit from behind.

While the image files are being recorded...
- While the multi-indicator is flashing red, the image files are being written to the memory, during which time it is not possible to capture another image. Another image can be captured after the flashing red indicator turns off. However, even when the multi-indicator is flashing red, depending on the camera's internal memory remaining capacity, in some cases the next image can be captured about 2 seconds after shooting.

VIDEO CLIP RECORDING

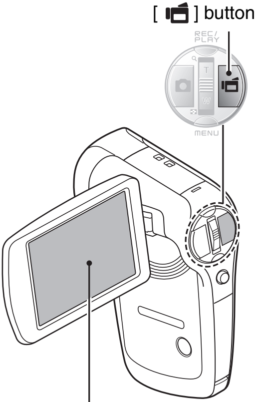
1 **Turn on the camera (page 29), and set it to the shooting mode (page 35).**

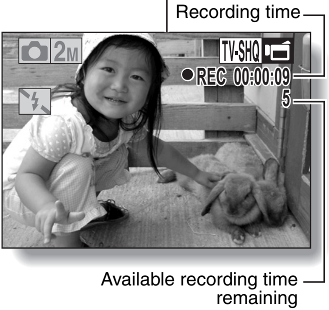
2 **Press the [ ] button.**

- Recording begins.
- It is not necessary to keep the [ ] button pressed while shooting.
- When the remaining recording time available for the currently recording clip becomes little, a countdown of the remaining recording time appears on the display.

3 **End the recording.**

- Press the [ ] button again to stop recording.





SIMPLE/SHOOTING

SHOOTING SINGLE SHOTS

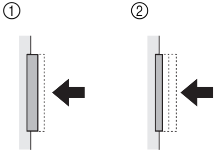
Capture a still image (single-shot).

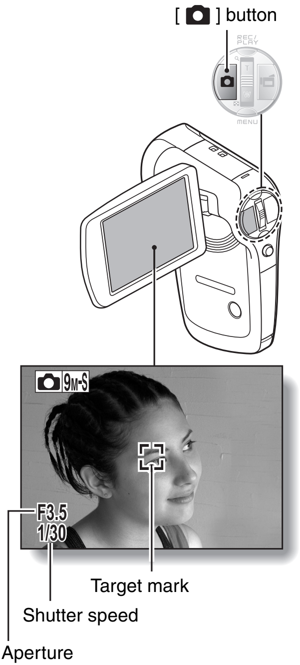
1 Turn on the camera (page 29), and set it to the shooting mode (page 35).

2 Press the [ ] button.

① **Press the [ ] button halfway.**
- The autofocus operates, and the image is focused (focus lock).

② **Continue to gently press the [ ] button all the way.**
- The shutter releases and the image is captured.
- You can view the captured image on the monitor by keeping the [ ] button depressed when you capture the image (post-view [page 134]).





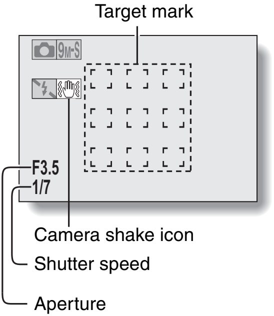
HINT

Adjusting the monitor brightness

- While the Shooting Screen is active, you can quickly access the screen for adjusting the brightness of the monitor (page 140) by pressing the MENU button for at least 1 second.

What is the camera focusing on?

- A target mark ⌜⌟ on the monitor shows the area the camera is focusing on.
- The camera automatically determines the correct focus by measuring from 9 different focus points within the shooting area. If the target mark is at a position that is different from the point you wish to focus on, you can refocus, for example, by changing the shooting angle.
- The large target mark appears when the camera focuses on a wide area in the center of the screen.



The focus can be locked

- By assigning an operation shortcut to the SET button (page 135), you can set the autofocus or the aperture to a fixed setting. When the aperture setting is fixed, the [AE🔒] icon appears on the monitor; when the autofocus setting is fixed, the [AF🔒] icon appears on the monitor.
- When the focus range (page 57) setting is changed, the focus lock is released.

The shutter speed and aperture are displayed

- In the NORMAL mode, the shutter speed and aperture settings are shown on the Shooting Screen. You can use them as a reference when shooting.

If the camera shake icon [camera shake icon] appears...

- During still image shooting, if the shutter speed is slow and the possibility that the image may be blurred due to camera shake becomes high, the camera shake icon may appear on the monitor. In this case, use a tripod to stabilize the camera when shooting, or set the flash operation mode to automatic (page 63).
- When shooting with the scene select function set to the fireworks [fireworks icon] mode, the camera shake icon always appears, but this is normal.

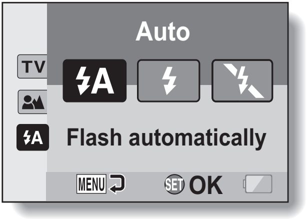
SIMPLE/SHOOTING

Using the flash

The flash is not only used for photographing under dark conditions, but is also convenient for example when the subject is in shadow or lit from behind. The flash is available only when shooting single-shot still images.

1 Display the SIMPLE Mode Shooting Menu (page 37), select the flash setting, and press the SET button.

- The screen to select the flash operation appears.



[⚡A]: The camera detects the subject brightness and uses the flash only when necessary.

[⚡]: The flash operates with every image captured regardless of the conditions.

[⚡off]: The flash does not operate even in dark situations.

2 Select the desired flash operation, and press the SET button.

- This completes the flash operation setting.

3 Press the [📷] button to take the picture.

CAUTION

Do not touch the flash unit when shooting

- The flash unit becomes very hot and may cause a burn. Avoid touching the flash unit when shooting.

HINT

- The flash works only when shooting single-shot still images.

SHOOT A STILL IMAGE WHILE RECORDING A VIDEO CLIP

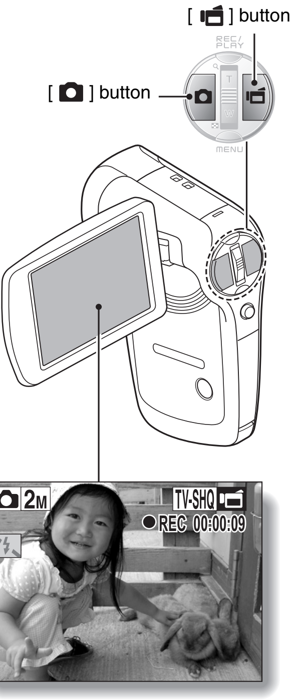
You can capture a still image (a single-shot) while recording a video clip.

1 **Turn on the camera (page 29), and set it to the shooting mode (page 35).**

2 **Press the [ ] button.**

3 **When you see a scene you'd like to capture as a still image. press the [ ] button.**

4 **Press the [ ] button to end the video clip recording.**



HINT

- When shooting a still image while recording a video clip, the flash does not operate.
- The face chaser feature (page 100) is inoperative.
- When the remaining video recording time becomes approximately 50 seconds, it will no longer be possible to capture a still image while recording a video clip. The exact remaining recording time at which this occurs will differ depending on the subject and on the video clip mode setting (page 78). If you intend to capture a still image while recording a video clip, it is suggested that you take note of the remaining video recording time.

About the recording size of still images

- The still image shooting size automatically changes to [2M] and the image is captured.

MACRO-PHOTOGRAPHY (ZOOM)

Your camera has two zoom functions: optical zoom and digital zoom.

1 Point the camera lens at the subject.

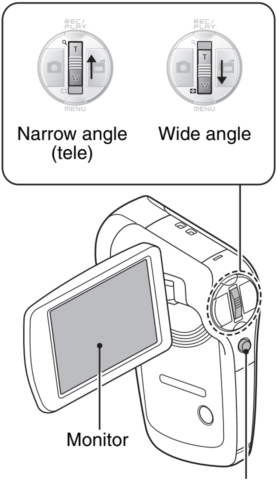
2 Push the zoom switch toward [T/🔍] or [W/▦] to compose the desired image.

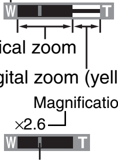
[T/🔍]: Zoom in on the subject.
[W/▦]: Zoom out.

- When the zoom switch is pushed, the zoom bar appears on the monitor.
- When the optical zoom factor is at maximum, zooming stops temporarily. When the zoom switch is pushed toward the [T/🔍] side again, the mode changes to the digital zoom mode and zooming continues.

3 Take the picture.

For video clip recording, see page 60.
For shooting single shots, see page 61.
For shooting sequential shots, see page 80.





PLAYING BACK VIDEO CLIPS AND STILL IMAGES

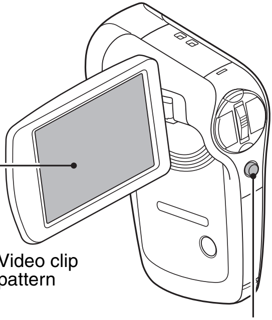
1 **Set the camera to the playback mode (page 35).**

2 **Toggle the SET button to the left or right to display the image you wish to play back.**

- Video clips are indicated by a video clip pattern along the left and right sides of the screen.



<Example: After recording a video clip>





<Example: After capturing a still image>

3 **For a video clip, press the SET button.**

- Playback begins.

To do this...		Do this
Normal forward playback		Press the SET button.
Stop playback		During playback, toggle the SET button down.
Pause		During playback, press the SET button or toggle the SET button up. During accelerated playback, toggle the SET button up.
To play back one image at a time (single-frame step)	Forward playback	After pausing playback, toggle the SET button to the right.
	Reverse playback	After pausing playback, toggle the SET button to the left.
Slow playback	Forward playback	After pausing playback, press and hold the SET button to the right.
	Reverse playback	After pausing playback, press and hold the SET button to the left.
To accelerate playback	Forward playback	During forward playback, toggle the SET button to the right. * The playback speed changes each time the SET button is toggled to the right, as follows: Normal playback $\rightarrow$ 2$\times$ $\rightarrow$ 5$\times$ $\rightarrow$ 10$\times$ $\rightarrow$ 15$\times$ Toggle the SET button to the left to resume normal playback speed.
	Reverse playback	During forward playback, toggle the SET button to the left. * The playback speed changes each time the SET button is toggled to the left, as follows: 15$\times$ $\leftarrow$ 10$\times$ $\leftarrow$ 5$\times$ Toggle the SET button to the right to resume normal playback speed.
Return to normal playback speed		Press the SET button.
Adjusting the volume		**Louder:** During playback, push the zoom switch toward the [T] side. **Softer:** During playback, push the zoom switch toward the [W] side.

When you are finished using the camera...

- **Press the ON/OFF button to turn the camera off.**

How to save one frame from a video clip as a still image

1 **Play back the video clip. Pause the playback at the point you wish to "snap" a photo.**

2 **Press the [📷] button.**

- The currently displayed frame is saved as a still image.

SIMPLE/PLAYBACK

HINT

The size of a video clip file is very large

- Therefore, be aware that if the video clip is uploaded to a computer to be played back, the computer may not be able to play back the video fast enough, making it appear jerky. (The video will always be displayed properly on the monitor or a television.)
- Depending on the card, shooting may end even before the possible shooting time indicated.

Display the video clip playback point

- During video clip playback, press the MENU button for at least 1 second to display a bar showing the current playback point in the video clip.
- Press the MENU button for about 1 second to cancel the bar.

CAUTION

During video clip playback, the sound of a motor is audible...

- During recording, the sound of the optical zoom movement or autofocus movement was recorded. This is not a malfunction.

If no audio is heard...

- The audio is not played back when the video clip is played back in the frame-by-frame, fast playback or reverse playback mode.

SLIDESHOW PLAYBACK

You can play back files in succession with the “slideshow playback” feature.

1 Display the SIMPLE Mode Playback Menu (page 37), select the slideshow setting, and press the SET button.

: Play back all files.

: Play back video clips and audio files.

: Play back still image files.



2 Select the type of file to play back, and press the SET button.

- Slideshow playback begins.
- To stop slideshow playback, press the SET button or MENU button.

HINT

About the slideshow settings

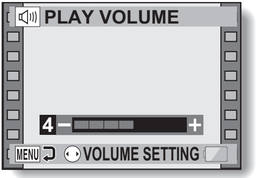
- During slideshow playback, the BGM that was set for the slideshow from the NORMAL Mode Playback Menu is played. To change the BGM, display the NORMAL Mode Playback Menu and change the BGM setting for the “SLIDESHOW” (page 105).
- For slideshows played in the SIMPLE mode, the transition effect is fixed at FADE and the transition interval is fixed at 2 SEC.

PLAYBACK VOLUME

Adjust the playback volume for video clips and audio files.

1 Display the SIMPLE Mode Playback Menu (page 37), select the playback volume setting, and press the SET button.

- The volume control bar appears.



2 Toggle the SET button to the left or right to set the volume, and press the SET button.

- The playback volume is set, and the display returns to the SIMPLE Mode Playback Menu.

HINT

The volume can be adjusted during playback

- During video clip or audio file playback, if you move the zoom switch, the volume control bar will appear, allowing you to adjust the volume.

In the NORMAL mode

- When you select “PLAY VOLUME” from the NORMAL Mode Playback Menu and press the SET button, the volume control bar appears.

DELETING FILES

You can delete files if you no longer need them. You can delete the files one at a time, or all at once.

1 **Display the SIMPLE Mode Playback Menu (page 37), select the delete icon, and press the SET button.**

DELETE SINGLE:
Deletes the currently displayed file.
DELETE ALL:
Deletes all files.



2 **Select the desired delete mode, and press the SET button.**

- The Delete Confirmation Screen appears.

<DELETE SINGLE>

- Toggle the SET button to the left or right to select the file you wish to delete.
- There is no confirmation screen when deleting single files. Please make sure that the displayed image is one you wish to delete.

<DELETE ALL>

- Toggle the SET button to the left or right to confirm the files to delete.

3 Select “DELETE”, and press the SET button.

<DELETE SINGLE>

- The currently displayed file is deleted.
- To delete other files, select the files, select “DELETE” and press the SET button.

<DELETE ALL>

- The Delete Confirmation Screen again appears. To delete the files, select “YES”, and press the SET button. When file delete is completed, “No image” is shown.

HINT

To delete the currently displayed file

- Toggle the SET button up to access the screen to delete the currently displayed file.

In the NORMAL mode

- When you select “DELETE” from the NORMAL Mode Playback Menu and press the SET button, the Delete Screen appears.

CAUTION

- Files that are protected from accidental delete cannot be deleted. To delete protected files, set the protect setting for the files to off (page 107), and then follow the file delete procedure.

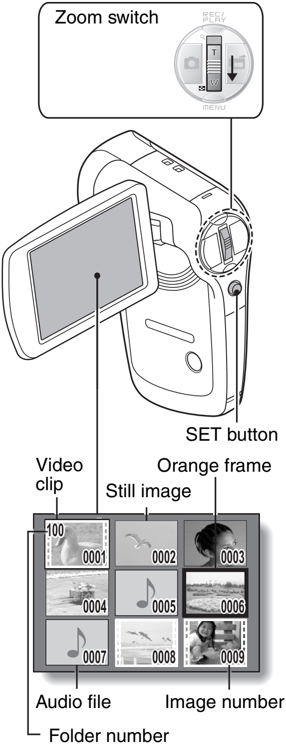
PLAYBACK MODES

Multi-image display

1 **Display the image you wish to play back.**

2 **Push the zoom switch toward the [W/▦] side.**
- The 9-image display appears.

3 **Select the image to play back.**
- Toggle the SET button up, down, left or right to move the orange frame to the desired image, and press the SET button.
  Instead of pressing the SET button, you can push the zoom switch toward the [T/🔍] side to show the image full screen.
- If the zoom switch is pushed toward the [W/▦] side while the 9-image display is shown, the display changes to the 20-image display.



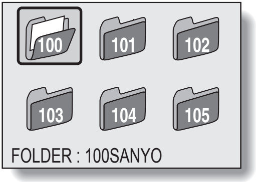
Selecting the playback folder

If the card contains multiple folders, you can select from which folder you would like to play back.

1 **Display the Playback Screen.**

2 **Push the zoom switch toward the [W/▦] side 3 times.**

- The screen to select the playback folder appears.
- If the zoom switch is pushed toward the [T/🔍] side, the camera changes to the 20-image display (page 75).



3 **Toggle the SET button up, down, left or right to move the orange frame to the desired folder, and press the SET button.**

- The files in the selected folder are displayed in the Playback Screen.

HINT

In the NORMAL mode

- When you select "SELECT FOLDER" from the NORMAL Mode Playback Menu and press the SET button, the screen to select the playback folder appears.

Magnifying (zooming in) the image

1 **Display the image that you want to magnify.**
- For a video clip, pause playback at the place you want to magnify.

2 **Push the zoom switch toward the [T/] side.**
- Magnification is enabled.
- The image is magnified, and the central portion of image is displayed.
- Toggle the SET button to view different parts of the magnified image.



To magnify:
Magnification increases each time the zoom switch is pushed toward the [T/] side.

To return to normal size:
Magnification decreases each time the zoom switch is pushed toward the [W/] side.
- Press the SET button to return to the normal (100%) view.

HINT

The magnified portion of the image can be saved as a separate image
- Press the [ ] button. The magnified portion is saved as a new still image.

RECORDING SIZE

The image quality of video clips and still images is determined by the recording size (number of pixels). The larger the recording size, the better the image quality will be, but the file size will also be larger. Select the recording size that is correct for the intended purpose.

Movies

The faster the frame rate (frames per second), the smoother playback will be. However, as with the recording size, the file size is also proportionately larger, using up more memory. This menu is also used when making audio recordings.

1 Display the NORMAL Mode Shooting Menu (page 37), select "MOVIE", and press the SET button.

TV-HR: Record at 640 × 480 pixels, 60 frames per second.

TV-SHQ: Record at 640 × 480 pixels, 30 frames per second (high bit rate).

TV-HQ: Record at 640 × 480 pixels, 30 frames per second (standard bit rate).

Web-SHQ: Record at 320 × 240 pixels, 30 frames per second.

Web-HQ: Record at 320 × 240 pixels, 15 frames per second.

<Audio mode>

: Make an audio recording (voice memo) (page 81).

2 Select the desired recording size, and press the SET button.

- This completes the recording size setting.

CAUTION

When editing video clips (page 112)...

- In order for video clips to be joined, they must have been photographed in the same mode.
- Video clips that were photographed in different modes cannot be joined.

RECORDING SIZE

Still images

This menu is also used for shooting sequential shots.

1 Display the NORMAL Mode Shooting Menu (page 37), select “PHOTO”, and press the SET button.

12M: Image size is 4000 × 3000 pixels.
9M-H: Image size is 3456 × 2592 pixels (low compression).
9M-S: Image size is 3456 × 2592 pixels (normal compression).
6.7M: Image size is 3456 × 1944 pixels (16:9 ratio).
5M: Image size is 1944 × 2592 pixels (portrait orientation).
2M: Image size is 1600 × 1200 pixels
0.3M: Image size is 640 × 480 pixels.
8M: 3264 × 2448-pixel sequential shots.
2M: 1600 × 1200-pixel sequential shots.

2 Select the desired recording size, and press the SET button.

- This completes the recording size setting.

Sequential shots

1 **Display the NORMAL Mode Shooting Menu (page 37), select "PHOTO", and press the SET button.**

2 **Select [8M] or [2M], and press the SET button.**

3 **Press the [ ] button.**

- Shooting begins. Shooting continues as long as the [ ] button is kept pressed.

HINT

- The maximum number of images in a sequential shots sequence is about 10.

About the focus when shooting sequential shots

- When sequential shots are captured, the autofocus operates when the [ ] button is pressed halfway, fixing the focus.

Can the flash be used?

- The flash does not operate when shooting sequential shots.

RECORDING SIZE

Audio recording

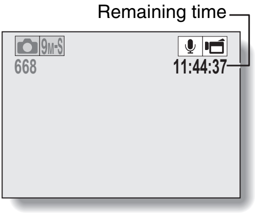
Your camera can make audio recordings and play them back.

Audio recording

1 **Display the NORMAL Mode Shooting Menu (page 37), select “MOVIE”, and press the SET button.**

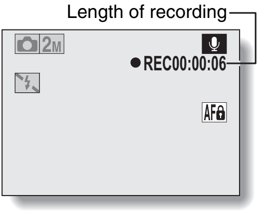
2 **Select [ ], and press the SET button.**

- The audio recording mode is enabled.



3 **Press the [ ] button.**

- Audio recording begins. During recording, [ ] appears in the monitor. It is not necessary to continue pressing the [ ] button while recording.



4 End the recording.

- Press the [🎥] button again to stop recording.

HINT

You can capture a still image during an audio recording

- Press the [📷] button during audio recording to capture a still image. Note, however, that the resolution in the still image mode automatically changes to [2M] and the image is captured.

Audio playback

1 Display the desired audio file.



NORMAL/SHOOTING

2 Play back the recording.

To do this...		Do this
Normal playback	Start playback	Press the SET button.
	Pause	Press the SET button. Toggle the SET button up.
	Stop playback	Toggle the SET button down.
Fast forward/ fast reverse	Fast forward	During playback, toggle the SET button to the right. Each time the SET button is toggled to the right, the speed increases. If the SET button is toggled to the left during fast forward, the speed decreases.
	Fast reverse	During playback, toggle the SET button to the left. Each time the SET button is toggled to the left, the speed increases. If the SET button is toggled to the right during fast reverse, the speed decreases.
	Pause	Toggle the SET button up.
	Return to normal playback	Press the SET button.
Volume adjustment	Louder	During playback, push the zoom switch toward the [T/] side.
	Softer	During playback, push the zoom switch toward the [W/] side.

CAUTION

If no audio is heard...

- The audio is not played back when the audio recording is played back in the fast playback or fast reverse mode.

SCENE SELECT

You can select from various preset settings (aperture, shutter speed, etc.) for specific shooting conditions.

1 Display the NORMAL Mode Shooting Menu (page 37), select “SCENE SELECT”, and press the SET button.

Scene setting	Features	Shooting mode setting		
		Single-shot	Sequential shots	Video clip
AUTO Auto	The camera makes the optimum settings.	○	○	○
Sports	Capture a split-second image of a fast-moving subject.	○	○	○
Portrait	Enhance the three-dimensional feel of the subject by blurring the background.	○	○	○
Landscape	For beautiful shots of distant scenery.	○	○	○
Night view portrait	Photograph the subject while keeping the background night scenery.	○	×	○
Snow & beach	For photographing bright scenes, such as on a ski slope or at the beach.	○	○	○
Fireworks	For capturing fireworks at night.	○	×	○
Lamp	Photograph in low-light conditions	○	×	○

○: Available ×: Not available

2 Select the desired icon, and press the SET button.

- This completes the scene select function setting.
- To return to normal photography, select AUTO from the scene select menu, and press the SET button.

HINT

- When capturing images using the lamp, fireworks or night view portrait setting, use a tripod or other method to stabilize the camera.
- A table showing the limitations for settings corresponding to scene select icons other than AUTO is on page 197.

FILTERS

The filter feature changes image characteristics such as color tones, to apply unique effects to the photographed image.

1 **Display the NORMAL Mode Shooting Menu (page 37), select "FILTER", and press the SET button.**

[no filter icon]: No filter is used (none).

[cosmetic icon]: Skin tones are enhanced in close-up shots (cosmetic filter).

[monochrome icon]: Snap black-and-white photos (monochrome filter).

[sepia icon]: Create a sepia-tone photo (sepia filter).

2 **Select the desired icon, and press the SET button.**

- This completes the filter setting.
- To return to normal photography, select [no filter icon] from the filter menu, and press the SET button.

HINT

- A table showing the limitations for settings corresponding to filter icons other than [no filter icon] is on page 198.

FLASH OPERATION

The flash is used not only for taking pictures where there is insufficient light, but also when the subject is in shade or in backlight conditions.
The flash can be enabled only when capturing single still images.

1 Display the NORMAL Mode Shooting Menu (page 37), select "FLASH", and press the SET button.

[⚡A]: The camera detects the subject brightness and uses the flash only when necessary.

[⚡]: The flash operates with every image captured, regardless of the subject brightness.

[⚡ off]: The flash does not operate even in dark surroundings.

2 Select the desired flash operation, and press the SET button.

- This completes the flash operation setting.

3 Press the [📷] button to capture the image.

CAUTION

Do not touch the flash unit when shooting

- The flash unit becomes very hot and may cause a burn. Avoid touching the flash unit when shooting.

HINT

- The flash works only when shooting single-shot still images.
- By assigning an operation shortcut to the SET button (page 135), you can change the flash mode from the Shooting Screen.

SELF-TIMER

Set the delay time before recording starts after the [ ] or [ ] button is pressed.

1 Display the NORMAL Mode Shooting Menu (page 37), select “SELF-TIMER”, and press the SET button.

: Turns off the self-timer function.

: The image is captured about 2 seconds after the [ ] button or [ ] button is pressed.

: The image is captured about 10 seconds after the [ ] button or [ ] button is pressed.

2 Select the desired icon, and press the SET button.

- This completes the self-timer setting.

3 Take the picture.

HINT

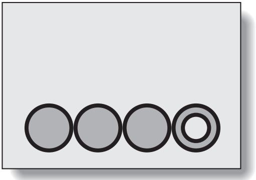
- By assigning an operation shortcut to the SET button (page 135), you can set the self-timer from the Shooting Screen.

To pause or cancel the self-timer function...

- If the [ ] button or [ ] button is pressed again before the shutter is released, the self-timer countdown temporarily stops. Press the [ ] button or [ ] button one more time to restart the self-timer.
- To cancel self-timer photography, select the icon from the self-timer menu, and press the SET button.
- The self-timer is automatically reset to off after the power save mode is activated and the camera turned off.

When is selected...

- When the [ ] button or [ ] button is pressed, the multi-indicator will blink for about 10 seconds, and then the image is captured. Also, 4 seconds before the shutter releases, the indication shown in the illustration appears on the monitor.



If you swivel the monitor unit to its farthest position, the image on the monitor will be inverted.

MOTION COMPENSATION (IMAGE STABILIZER)

Your camera can minimize a jittery picture by compensating for unintentional hand motion.

Compensate for camera shake during video clip recording

1 Display the NORMAL Mode Shooting Menu (page 37), select "MOVIE STABILIZER", and press the SET button.

[A]: Compensate for unintentional camera motion during video clip recording. The field of view (see page 92) does not change when the [ ] button is pressed, so this setting is convenient when shooting mostly video clips (video clip field of view display).

[B]: Compensate for unintentional camera motion during video clip recording. The field of view does not change when the [ ] button is pressed, so this setting is convenient when shooting mostly still images (still image field of view display).

[OFF]: Disengages the motion compensation function (OFF).

2 Select the desired setting, and press the SET button.

- This completes the movie stabilizer setting.

Compensate for camera shake during still image shooting

1 Display the NORMAL Mode Shooting Menu (page 37), select "PHOTO STABILIZER" and press the SET button.

[ON]: Motion compensation is enabled.

[OFF]: Motion compensation is not enabled.

2 Select the desired setting, and press the SET button.

- This completes the photo stabilizer setting.

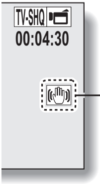
HINT

If the motion compensation does not seem to be working...

- Due to the mechanical characteristics of this function, it may not be possible for the camera to compensate for violent motion.
- If the digital zoom (page 67) is being used, the large magnification factor may make it difficult for the motion compensation function to work correctly.
- When using a tripod or other means to stabilize the camera during shooting, please turn the motion compensation function off. If the motion compensation function is enabled when it is not actually needed, it may result in an image that appears unnatural.

When motion compensation is enabled,

- The following icons are shown on the monitor:



Setting	Movie stabilizer	Photo stabilizer	Movie stabilizer + Photo stabilizer
Icon display	Movie field of view display		
	Photo field of view display		

Can't set the photo stabilizer setting?

- The photo stabilizer is automatically turned off after any of the following operations:
  - Setting the flash mode to forced flash
  - Setting the shooting mode to the sequential shots mode
  - Setting flicker reduction (page 139) to "ON"
  - Setting the scene select function to the night view portrait, fireworks, or lamp mode

The photo stabilizer isn't working?

- The photo stabilizer does not work when you are capturing a still image while recording a video clip.
- The photo stabilizer does not work when the ISO sensitivity is set to 1600 or higher.

Limitations when the photo stabilizer is ON

- The time it takes for the camera to save an image may be slightly longer when the photo stabilizer is set to ON.

<Concerning the changing field of view when motion compensation is enabled>

- When the motion compensation is set to ON, the field of view during recording standby differs from the recordable field of view as shown below.
- When set to the motion compensation B setting, the video clip recording range is as shown in the recording standby screen.



- When the still image shooting resolution is set to 0.3M and the scene select function to AUTO, , , or (page 84), a still image captured during video clip recording will have the same field of view as the video clip.

FOCUS RANGE

1 Display the NORMAL Mode Shooting Menu (page 37), select "FOCUS", and press the SET button.

- When shooting a subject at a medium to far distance, by setting the focus range to , you will find it both easier and faster to focus.

  : Wide end: 10 cm (3.94 in.) to infinity
  Tele end: 80 cm (31.50 in.) to infinity (total range mode)

  : 80 cm (31.50 in.) to infinity (normal mode)

  [MF]: The focus can be manually set to any distance from 1 cm (0.39 in.) to 8 m (26.25 ft.), as well as to infinity (manual focus).

  : 1 cm (0.39 in.) to 80 cm (31.50 in.) (super macro mode: wide end only)

- When the focus range is set to , or [MF], the corresponding indication appears on the monitor.

2 Select the desired icon, and press the SET button.

- This completes the focus range setting.

HINT

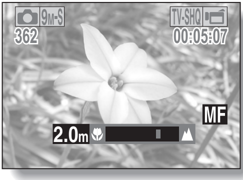
- When the focus range is set to super macro , the zoom is temporarily set to the wide end.
- By assigning an operation shortcut to the SET button (page 135), you can change the focus range setting from the Shooting Screen.

How to use the manual focus

1 **Display the NORMAL Mode Shooting Menu (page 37), select "FOCUS", and press the SET button.**

2 **Select [MF], and press the SET button.**

- The focus distance adjustment bar appears.



3 **Toggle the SET button to the left or right to adjust the focus distance, and press the SET button.**

- The focus distance is set, and you are returned to the Shooting Screen.

HINT

About the focus distance

- The focus distance indication shows the distance between the center of the lens and the subject.
- In some cases there may be a slight variance between the distance (numerical figure) you set in the manual focus mode and the actual distance.

About zoom movement when using the manual focus

- If the focus distance is set to 50 cm (19.69 in.) or less, the zoom changes to the largest setting that is suitable for that focus distance.
- When the focus distance is set to 50 cm (19.69 in.) or less, the zoom will function only within the range at which the image is focused.

FOCUS MODE

You can choose from the following 2 types of autofocus (still image shooting only):

9-point range finder focus:
The correct focus is determined from 9 different focus points within the shooting area visible on the monitor. When the image is focused, a target mark [ ] appears.

Spot focus:
The camera focuses on the subject in the center of the monitor.

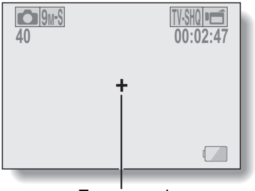
1 Display the NORMAL Mode Shooting Menu (page 37), select "FOCUS MODE", and press the SET button.

9-AF: 9-point range finder focus is selected.

S-AF: Spot focus is selected.

2 Select the desired icon, and press the SET button.

- The focus mode is set.
- When the spot focus setting is selected, the focus mark + appears in the center of the monitor.



Focus mark

LIGHT-MEASURING MODE SETTING

You can select from 3 types of light-measuring modes.

Multi-section light-measuring:
The light is modulated after sampling from multiple areas of the entire shooting screen.

Center-weighted light-measuring:
The light is modulated for the entire image after measuring from mostly the center area.

Spot light-measuring:
You can compose the picture and capture the image after first modulating the light only at the center spot of the monitor.

1 Display the NORMAL Mode Shooting Menu (page 37), select "EXP MEASURE", and press the SET button.

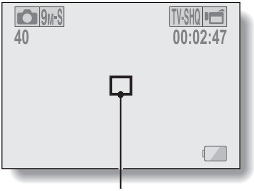
[▦]: Multi-section light-measuring

[◎]: Center-weighted light-measuring

[▪]: Spot light-measuring

2 Select the desired light-measuring mode, and press the SET button.

- This completes the light-measuring mode setting.
- When spot light-measuring is selected, the light-measuring spot mark ☐ appears in the center of the monitor.



Light-measuring spot mark

NORMAL/SHOOTING

ISO SENSITIVITY

With the initial settings, the ISO sensitivity is automatically set according to the brightness of the subject. However, the ISO sensitivity can be set to a fixed setting.

1 Display the NORMAL Mode Shooting Menu (page 37), select "ISO", and press the SET button.

AUTO: The ISO sensitivity is set automatically (video clip recording: ISO equivalent to ISO 50 to 1600; still image shooting: ISO 50 to 400).

50: Sets sensitivity to ISO 50 (video clip high sensitivity recording or at scene select [lamp] setting: ISO 100).

100: Sets sensitivity to ISO 100 (video clip high sensitivity recording or at scene select [lamp] setting: ISO 200).

200: Sets sensitivity to ISO 200 (video clip high sensitivity recording or at scene select [lamp] setting: ISO 400).

400: Sets sensitivity to ISO 400 (video clip high sensitivity recording or at scene select [lamp] setting: ISO 800).

800: Sets sensitivity to ISO 800 (video clip high sensitivity recording or at scene select [lamp] setting: ISO 1600).

1600: Sets sensitivity to ISO 1600 (video clip high sensitivity recording or at scene select [lamp] setting: ISO 3200).

* The indicated ISO value is the standard output sensitivity.

2 Select the desired icon, and press the SET button.

- This completes the ISO sensitivity setting.

HINT

- By setting a higher ISO sensitivity, you can set faster shutter speeds and capture images in darker locations, but noise in the captured images may increase or the images may be irregular.
- By assigning an operation shortcut to the SET button (page 135), you can change the ISO setting from the Shooting Screen.

CAUTION

Does the image appear to flicker when recording a video clip?

- If recording a video clip under fluorescent lights with the ISO sensitivity set to [400] or higher, a noticeable flicker may appear in the image.

WHITE BALANCE

This camera automatically adjusts the white balance under most lighting conditions. However, if you want to specify the lighting conditions or change the overall tone of the image, the white balance can be manually set.

1 Display the NORMAL Mode Shooting Menu (page 37), select "WHITE BALANCE", and press the SET button.

AWB: The camera will make the white balance adjustment automatically based on the natural and artificial light conditions.

: For shooting outside on a sunny day.

: For shooting outside on a cloudy day.

: For shooting inside under fluorescent lighting.

: For shooting inside under incandescent lighting.

: This setting is used for a more accurate white balance using the existing light source (one push). Please use it when the light source cannot be identified, for example.

Setting procedure

① **Select the icon.**

② **Fill the entire screen with a plain white card (or piece of paper, etc.), and press the SET button.**

- This completes the white balance setting.

2 Select the desired icon, and press the SET button.

- This completes the white balance setting.

HINT

To cancel the white balance setting

- Perform step **1**, select AWB, and then press the SET button.

FACE CHASER

As you capture a still image, the face chaser detects the subject's face, and adjusts the brightness and focus in a way that produces a clear and bright photo of the subject's face.

1 Display the NORMAL Mode Shooting Menu (page 37), select "FACE CHASER", and press the SET button.

[face icon]: The face chaser function is enabled.

[face off icon]: The face chaser function is not enabled.

2 Select the desired setting, and press the SET button.

- This completes the face chaser setting.

HINT

When the face chaser is set to "ON"...

- Each face in the Shooting Screen is marked with a green frame.
- Faces that are in focus are marked with a double green frame.
- If you press the [camera] button halfway, the frames marking the faces that are in focus change to orange.
  If you magnify an image that was captured with the face chaser function enabled, the magnified image will center on the face(s).
- The scene select function setting automatically changes to AUTO.

CAUTION

- The digital zoom is disabled.
- The face chaser function does not work when zooming in or out.
- The face chaser function may not work when the subject's face in the monitor is relatively small or appears dark.

HIGH SENSITIVITY MODE

When you shoot in the high sensitivity mode, the captured image appears even brighter than that specified by the ISO sensitivity and exposure compensation settings.

1 **Display the NORMAL Mode Shooting Menu (page 37), select "HIGH SENSITIVITY", and press the SET button.**

[HS]: The high sensitivity mode is activated.

[HS crossed out]: The high sensitivity mode is not activated.

2 **Select the desired setting, and press the SET button.**

- This completes the high sensitivity mode setting.

CAUTION

Limitations of the high sensitivity mode

- If the flicker reduction function (page 139) is set to "ON", the high sensitivity mode automatically changes to "OFF".
- When the shutter speed is reduced to create a bright image, video clip motion will appear uneven during playback.
- When shooting in a dark environment, the autofocus and auto exposure may not function effectively.

DIGITAL ZOOM SETTING

This setting allows you to specify whether or not the digital zoom is enabled during zoom shooting.

1 **Display the NORMAL Mode Shooting Menu (page 37), select "DIGITAL ZOOM", and press the SET button.**

[D icon]: Digital zoom can be used.

[D icon crossed out]: Digital zoom cannot be used.

2 **Select the desired setting, and press the SET button.**

- This completes the digital zoom setting.

HINT

- The digital zoom does not function in the following situation:
  When the still image mode is set to [12M].

NORMAL/SHOOTING

SPECIFY A FOLDER TO SAVE FILES

Create or select a recording folder (a folder in which to store recorded files).

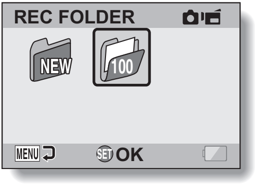
1 Display the NORMAL Mode Shooting Menu (page 37), select "REC FOLDER" and press the SET button.

<Create a new folder>

- Select "NEW".

<Select an existing folder>

- Select the desired folder number.



2 Press the SET button.

- This completes the create/select folder setting.
- If you created a new folder, it automatically becomes the selected recording folder.

CAUTION

When an existing folder cannot be selected or a new one created...

- A folder cannot be selected if it was created using a different device, or if it already contains the maximum number of files.

EXPOSURE COMPENSATION

By assigning the exposure compensation operation shortcut to the SET button (page 135), you can make the image lighter or darker when capturing images.

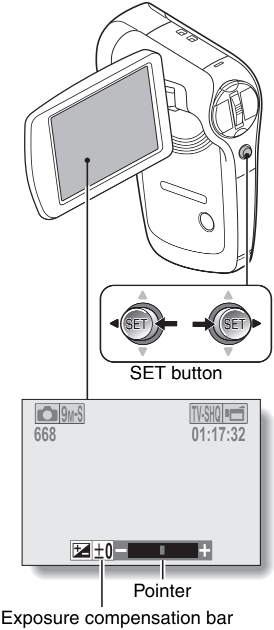
1 **Assign the operation shortcut to the SET button (page 135).**

2 **Toggle the SET button in the direction for which the operation shortcut was assigned.**

- The exposure compensation bar appears.

3 **Toggle the SET button to the left or right to adjust the exposure.**

- The exposure compensation numerical value is shown at the left end of the exposure compensation bar.
- The exposure compensation can be set to a value from –1.8 EV to +1.8 EV.
- The exposure compensation bar is canceled when the MENU button or the SET button is pressed.



HINT

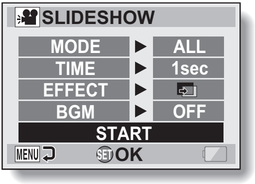
The exposure compensation setting is canceled in the following cases:

- When the pointer is set to the center position.
- When the camera is set to the playback mode.
- When the standby mode or sleep mode is activated.
- After the power is turned off.

SLIDESHOW PLAYBACK

Specify the settings for playing back files continuously in a "slideshow" format. In a slideshow of still images, you can set the transition time, transition effects and BGM.

1 **Display the NORMAL Mode Playback Menu (page 37), select "SLIDESHOW", and press the SET button.**



MODE:
Specify the file type to play back.

ALL:
Play back all files.

MOVIE:
Play back video clips and audio files.

PHOTO:
Play back still image files.

TIME:
Adjust the transition speed (the period that an image is displayed before it changes to the next image).

EFFECT:
Select a transition effect as an image changes to the next image.

BGM:
Specify the settings for playing background music during slideshow playback.

START:
Begin slideshow playback.

<Changing a setting>

① Select the item you wish to change, and press the SET button.
② Toggle the SET button up or down to change the setting.
③ Press the SET button.

2 Select "START" and press the SET button.

- Slideshow playback begins.
- To stop slideshow playback, press the SET button or MENU button.

HINT

BGM for video clips?

- When video clips are played back in a slideshow, the recorded audio track is played back; the BGM is not played.

Did you delete a BGM audio file from the camera?

- The three BGM audio files that were stored in your camera's internal memory at the time of purchase can be recovered by formatting the internal memory.

FILE PROTECT

Prevent accidental erasure of image and audio files.

1 **Display the file that you want to protect from accidental erasure, and display the NORMAL Mode Playback Menu (page 37).**

2 **Select "PROTECT" and press the SET button.**
- "LOCK" appears.
- If the protect mode has already been enabled for the file, then "UNLOCK" appears.



3 **Toggle the SET button up or down to select "LOCK", and press the SET button.**
- The protect mode is set for the file.
- The protect mark [protect icon] indicates that the file is locked.

CAUTION
- Even if the protect mode is set for certain files, they will be deleted if the card is reformatted (page 148).

HINT

To select a different image in steps 2 and 3...
- Toggle the SET button to the left or right.

To cancel the protect mode for a file...
- Display the desired file and repeat steps **1** to **3**. The protect mark [protect icon] will disappear and the protect mode is canceled.

ROTATE STILL IMAGE

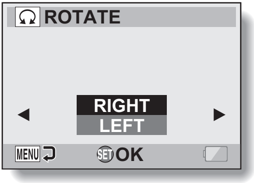
Captured still images can be rotated to the correct orientation for viewing.

1 **Display the still image you wish to rotate, and display the NORMAL Mode Playback Menu (page 37).**

2 **Select "ROTATE", and press the SET button.**

RIGHT:
Rotates image clockwise 90 degrees.

LEFT:
Rotates image counterclockwise 90 degrees.



3 **Select "RIGHT" or "LEFT", and press the SET button.**

- Each time the SET button is pressed, the image is rotated another 90 degrees.

HINT

- An image for which the protect mode has been enabled cannot be rotated. To rotate a protected image, cancel the protect mode before beginning the rotate image procedure (page 107).

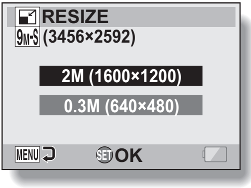
NORMAL/PLAYBACK

REDUCE STILL IMAGE SIZE (RESIZE)

A captured image can be resized to a smaller size and saved as a separate image.

1 **Display the still image whose size you want to change, and display the NORMAL Mode Playback Menu (page 37).**

2 **Select "RESIZE", and press the SET button.**



<For still images with a 4:3 vertical-to-horizontal aspect ratio>

2M: The size changes to 1600 × 1200 pixels.

0.3M: The size changes to 640 × 480 pixels.

<For still images with a 16:9 aspect ratio>

2M: The size changes to 1920 × 1080 pixels.

0.9M: The size changes to 1280 × 720 pixels.

3 **Select the new image size, and press the SET button.**

- Resizing begins.

HINT

Why can't the image be resized?

- An image can be resized only to a smaller (or the same) size, not to a larger size.

CORRECTING THE RED-EYE EFFECT AND IMAGE BLUR

Repair the red-eye effect in still images to make the eyes appear more natural, and enhance the contrast of blurry images.

1 Display the image to be modified, and display the NORMAL Mode Playback Menu (page 37).

2 Select “EDIT PHOTO”, and press the SET button.

- The Edit Photo Screen appears.

RED-EYE CORRECT.:
Repair the red-eye effect.
CONTRAST CORRECT:
Enhance the image contrast.



3 Select the desired type of edit, and press the SET button.

- The corresponding edit screen appears.

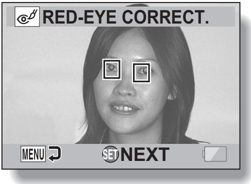
CORRECTION:
Proceed with the image correction.
EXIT:
Return to the Edit Photo Screen.



<Example: “RED-EYE CORRECT.” was selected>

4 Select “CORRECTION”, and press the SET button.

- Image editing begins. During image processing, “Processing” is shown on the screen.
- When editing is completed, the modified image is shown. Check the image to see if the post-processing result is satisfactory.



<Example: Red-eye correction>

CORRECTING THE RED-EYE EFFECT AND IMAGE BLUR

5 **Press the SET button.**

- A screen appears for you to specify whether or not to save the original image.

SAVE AS NEW:
The corrected image is saved as a separate image, and the original image is preserved.

OVERWRITE:
The original file is deleted, and only the corrected image is saved.



6 **Select the desired method to save the corrected image, and press the SET button.**

- The corrected image is saved, and you are returned to the Edit Photo Screen.

HINT

If the "Red-eye correction not successful" message appears...

- The camera was not able to successfully repair the image.
- The correction function works to automatically edit flaws that the camera detects in captured images. In some cases, the camera may fail to correct a flaw.

Concerning the date and time information for the saved image

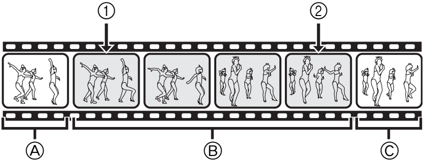
- When an image is corrected and saved, the recorded date and time of capture (Exif information) remains unchanged from the original image. However, the file date shown on the computer changes to the date and time the image was revised.

EDITING VIDEO CLIPS

You can trim away unwanted portions from a video clip and save it as a new video clip (video clip cutting [extracting]). You can also join video clips together and save them as one separate clip ("joining").

Procedure to cut (extract) a portion of a video clip

Specify the frames (①, ②) where the video clip is to be cut.



▼

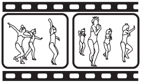
Extract the specified portion.

[Two ways to cut the video clip]

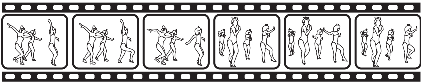
- Trim away portions Ⓐ and Ⓒ, and save portion Ⓑ. ••



- Delete portion Ⓑ, and join portions Ⓐ and Ⓒ. ••



- The original video clip is not affected. ••



(You can also choose to erase the original video clip when the new clip is saved.)

EDITING VIDEO CLIPS

Procedure to join video clips

Specify the video clip that will come first.



▼

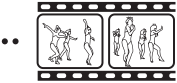
Specify the video clip that you wish to append (join).



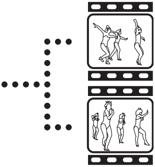
▼

Join the video clips.

- The video clips are joined.



- The original video clips are not affected. (You can also choose to erase the original video clips when the new clip is saved.)



CAUTION

Caution when editing video clips

- When editing video clips, do not press the REC/PLAY button. If you press the REC/PLAY button while editing video clips, not only will the editing not be properly completed, but the original video clip may also be erased.
- As the number or size of the video clips increases, the card memory may become full, making it impossible to edit the video clips. In this case, you will need to free some of the memory on the card, either by deleting files that are no longer necessary (page 73), or by selecting “OVERWRITE” when saving edited video clips (pages 116 and 118).

Video clip cutting (extracting)

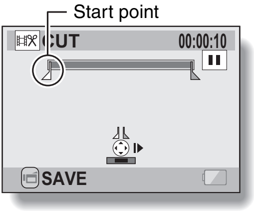
1 **Display the video clip from which you wish to extract a segment.**

2 **Display the NORMAL Mode Playback Menu (page 37), select "EDIT VIDEO", and press the SET button.**



3 **Select "CUT" and press the SET button.**

- The Cutting Screen appears.



NORMAL/PLAYBACK

4 Specify the start point of the extract.

- Use the procedure below to specify the frame from which the video clip extract will start.
- Play the video clip until approximately the desired point, pause the video clip, then play the video clip one frame at a time, stopping at the start point of the extract. This will be the first frame of the extract.
- If the start point of the video clip is also the start point of the extract, proceed to step **5**.

<Procedure>

Play:
After pausing playback, press and hold the SET button to the right for about 2 seconds for forward playback, or to the left for reverse playback.

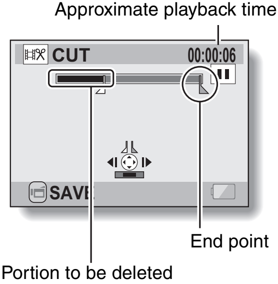
Pause:
During playback, press the SET button.

Accelerated playback:
During playback, toggle the SET button to the left or right to change the playback speed.

Single frame:
After pausing playback, toggle the SET button to the right to move forward one frame, or to the left to move back one frame.

5 Toggle the SET button up.

- The start point of the video clip extract is set, and the screen to specify the end point appears.
- Specify the end point of the extract by following the same procedure as in step **5**.



<When joining the first and latter portions>

① Toggle the SET button down.
  - Each time the SET button is toggled down, the sections to delete and the sections to save are reversed.

② Specify the end point of the extract. The frame following the end point of the extract will be the start point of the latter portion to be joined.

6 Press the [ ] button.

- A screen appears for you to select either to save the edited video clip as a new (separate) file, or to delete the original video clip and replace it with the edited video clip.

  SAVE AS NEW:
  The edited video clip will be saved as a new file. The original video clip remains unchanged.

  OVERWRITE:
  The original video clip will be deleted. Only the edited video clip will be saved.

  REVIEW CLIP:
  Play back the edited video clip before saving it.



7 Select the desired option, and press the SET button.

- Editing starts.
- When editing ends, you are returned to the NORMAL Mode Playback Menu.

HINT

- If the original video clip is protected, even if you select “OVERWRITE” in step **7** and press the SET button, the original video clip will not be erased. If you want it to be erased, you will need to first remove the protection (page 107).
- If the “Card full” message appears, you will need to free some of the memory by deleting files that you do not need to keep.

CAUTION

Warning concerning the battery pack remaining charge

- During the editing of lengthy video clips, the time to process the large amount of data can become quite long. To avoid problems caused by the battery pack becoming depleted in the middle of video clip editing, before starting to edit be sure that a sufficiently charged battery pack is installed in the camera, or connect an AC adaptor (sold separately).
- It is recommended that a computer be used to edit long video clips.

EDITING VIDEO CLIPS

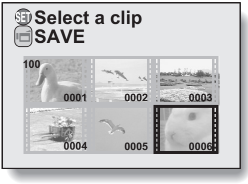
Joining video clips

CAUTION
- Video clips that were photographed in different modes cannot be joined.

1 **Display the NORMAL Mode Playback Menu (page 37), select “EDIT VIDEO”, and press the SET button.**



2 **Select “JOIN” and press the SET button.**
- The 6-image playback display for video clips appears.



3 Move the orange frame to the video clip you wish to join, and press the SET button.

- The specified video clip is labeled with a number.
- Up to 9 video clips can be selected.
- To cancel a selection and remove the number label from a video clip, select the video clip and press the SET button.



4 Press the [ ] button.

- A screen appears for you to select either to save the joined video clip as a new (separate) file, or to delete the original video clips and replace them with the joined video clip.

SAVE AS NEW:
The joined video clip will be saved as a new file. The original video clips remain unchanged.

OVERWRITE:
The original video clips will be deleted. Only the joined video clip will be saved.

REVIEW CLIP:
Play back the joined video clip before saving it.



5 Select the desired option, and press the SET button.

- Editing starts.
- When editing ends, you are returned to the NORMAL Mode Playback Menu.

HINT

- If the original video clip is protected, even if you select “OVERWRITE” in step **5** and press the SET button, the original video clip will not be erased. If you want it to be erased, you will need to first remove the protection (page 107).
- If the “Card full” message appears, you will need to free some of the memory by deleting files that you do not need to keep.

CAUTION

Warning concerning the battery pack remaining charge

- During the editing of lengthy video clips, the time to process the large amount of data can become quite long. To avoid problems caused by the battery pack becoming depleted in the middle of video clip editing, before starting to edit be sure that a sufficiently charged battery pack is installed in the camera, or connect an AC adaptor (sold separately).
- It is recommended that a computer be used to edit long video clips.

PRINTING INSTRUCTIONS

In addition to using your printer to print out still images captured with your camera, as with conventional film, you can have prints made at shops offering digital print services. Moreover, this camera is DPOF-compatible, so you can use the camera to specify the number of prints, whether or not the date is displayed on the print, and also to request an index print.

Display the Printing Instructions Screen

1 Display the NORMAL Mode Playback Menu (page 37), select "PRINT INSTRUCTIONS", and press the SET button.



ALL IMAGES:
The specified printing instructions apply to all the images.

EACH IMAGE:
The printing instructions are specified for each individual image.

INDEX:
All the still images are printed as miniature images (thumbnail images), several images on one print.

ALL CLEAR:
Clear all the printing instructions. This cannot be selected if no printing instructions have been specified for the image.

HINT

Printing a single frame from a video clip

- To print with a printer or have the digital print service shop print out a still image from a video clip, you must first save it (extract still) as a still image (page 70).

About the DPOF format

- DPOF (Digital Print Order Format) is a print order format. You can connect your camera to a DPOF-compatible printer to produce your prints. You can also set the printing instructions for the desired images, and then have the requested images printed automatically (page 177).

About the finished prints

- Rotated images (page 108) will be printed in their original orientation.
- The quality of the print output will differ depending on the print service and printer used.

Specifying date imprinting and print quantities

You can specify printing instructions for each individual image (EACH IMAGE), or apply the printing instructions to all the images (ALL IMAGES).

1 **Display the Printing Instructions Screen (page 120).**

2 **Select "ALL IMAGES" or "EACH IMAGE".**

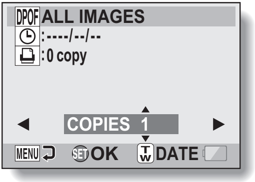
ALL IMAGES:
The printing instructions are applied to all the images.

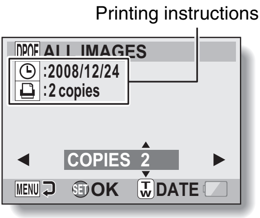
EACH IMAGE:
The printing instructions are applied only to the image currently displayed.



3 **Press the SET button.**

- The Date/Copies Print Screen appears.
- If "EACH IMAGE" was selected, toggle the SET button to the left or right to display the desired image to print.
- The printing instructions that are currently active for the displayed image are shown. You can toggle the SET button to the left or right to confirm the printing instructions for each image.





<Completed printing instructions>

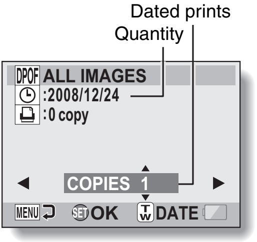
4 Specify whether the date is displayed on the print, and the number of prints.

<Specify the number of prints>

- Toggle the SET button up or down.
  - The quantity indication changes.
  - Display the desired number of prints.
- Press the SET button.
  - The number of prints is set.

<Specify dated prints>

- From the screen on which the number of prints is set, press the zoom switch.
- Press the SET button.
- The dated prints setting is set.



5 Press the MENU button.

- The printing instructions for the requested print quantities and dated prints are stored.
- The display returns to the Printing Instructions Screen.

Index print

Printing out many small images on one sheet is called an “index print”. This is convenient for use as a list of the images you have captured.

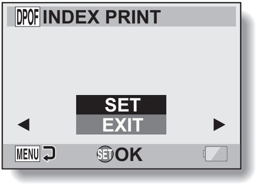
1 **Display the Printing Instructions Screen (page 120).**

2 **Select “INDEX”.**

3 **Press the SET button.**

- The Index Print Screen appears.

SET:
Specify an index print copy.
EXIT:
Discontinue the setting procedure, and return to the Printing Instructions Screen.



4 **Select “SET”, and press the SET button.**

- This completes the setting for the index print. You are returned to the Printing Instructions Screen.

HINT

To cancel the index print setting

- Follow steps **1** and **2**, select “CLEAR” in step **3**, and press the SET button.

Clearing all the printing instructions

Delete the printing instructions for all images.

1 **Display the Printing Instructions Screen (page 120).**

2 **Select "ALL CLEAR".**

3 **Press the SET button.**

- The Confirm All Clear Screen appears.

CANCEL:
Clear the printing instructions for all images.

EXIT:
Cancel the clear procedure and return to the Printing Instructions Screen.



4 **Select "CANCEL", and press the SET button.**

- All the printing instructions are cleared and you are returned to the Printing Instructions Screen.

COPY FILES

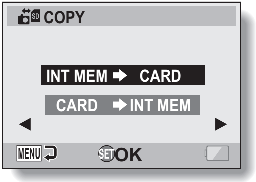
Images and audio files recorded in the camera's internal memory can be copied to the card, and likewise from the card to the internal memory.

1 Insert the card in the camera (page 24).

2 Display the NORMAL Mode Playback Menu (page 37).

3 Select the copy icon, and press the SET button.

- The screen to copy files appears.



4 Select the copy direction.

INT MEM ➡ CARD:
Copy files from the internal memory to the card.

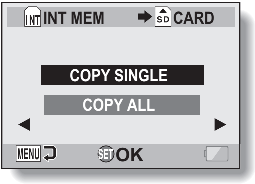
CARD ➡ INT MEM:
Copy files from the card to the internal memory.

* If no card is set in the camera, you cannot copy files.

5 Press the SET button.

- The screen to select the type of copy appears.
- The copy source image is shown in the background on the screen.

COPY SINGLE:
Copy one file.
COPY ALL:
Copy all the files from the copy source to the copy destination.



6 Select the desired type of copy.

<When selecting “COPY SINGLE”>
① Toggle the SET button to the left or right to display the file you wish to copy.
② Toggle the SET button up or down to select “COPY SINGLE”.
<When selecting “COPY ALL”>
① Toggle the SET button up or down to select “COPY ALL”.

7 Press the SET button.

- The files are copied.

DISPLAYING FILE PROPERTIES (INFORMATION SCREEN)

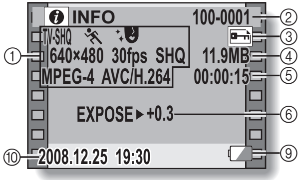
On the Information Screen you can check what the settings were when a file was recorded with your camera.

1 Display the desired file on the camera monitor.

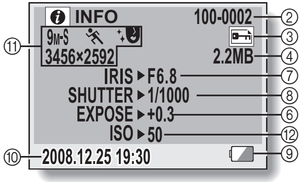
2 Press the MENU button for at least 1 second.

- The Information Screen appears.
- If the MENU button is pressed again, the Information Screen is canceled.

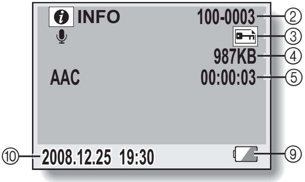
① **Video clip mode settings**
② **Image or sound number**
③ **Protect setting**
④ **File size**
⑤ **Shooting or recording time**
⑥ **Exposure compensation setting**
⑦ **Aperture value**
⑧ **Shutter speed**
⑨ **Remaining battery charge**
⑩ **Date and time of image**
⑪ **Still image resolution settings**
⑫ **ISO sensitivity setting**



<Video clip file>



<Still image file>



<Audio file>

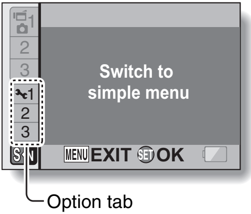
NORMAL/PLAYBACK

DISPLAY THE OPTION SETTING MENU

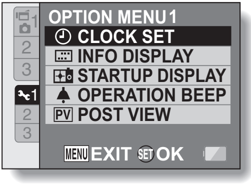
The camera settings are executed via the Option Setting Menu.

1 **Set the operating mode to the NORMAL mode (page 36).**

2 **Press the MENU button to display the Menu Screen.**

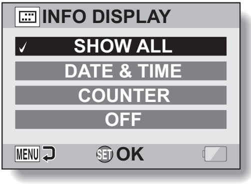


3 **Select an Option tab (1, 2 or 3), and press the SET button.**
- The Option Setting Menu appears.



To access a Setting Screen

4 **Toggle the SET button up or down to select the item you wish to set, and press the SET button.**
- The Setting Screen for the selected item appears.
- To return to the Menu Screen, press the MENU button.



SCREEN DISPLAY

Specify what information is displayed on the Playback Screen.

1 **Display the Option Setting Menu [🔧 1] (page 129).**

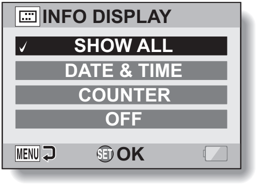
2 **Select “INFO DISPLAY”, and press the SET button.**

SHOW ALL:
Display the capture date and playback time (for video clips).

DATE & TIME:
Display the capture date.

COUNTER:
Display the video clip playback time.

OFF:
Do not display the capture date and playback time.



3 **Select the desired setting, and press the SET button.**

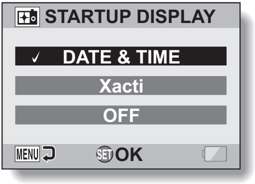
- This completes the screen display setting.

SELECT THE STARTUP DISPLAY

The startup display is the display that appears on the monitor when the camera is turned on in the recording mode.

1 Display the Option Setting Menu [1] (page 129).

2 Select "STARTUP DISPLAY", and press the SET button.



DATE & TIME:
The camera's date and time setting is shown.
Xacti:
The Xacti logo is shown.
OFF:
No startup display.

3 Select the desired setting, and press the SET button.

- The selected startup display is set.

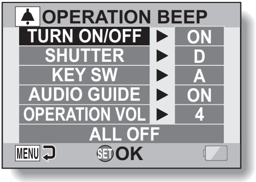
OPERATION SOUNDS

Use this menu to set the confirming audio signals when the camera is turned on/off or when the operation buttons ([📷] button, SET button, MENU button, etc.) are pressed, to adjust the operation sound volume, and to enable/disable the audio guide.

1 **Display the Option Setting Menu [🔧 1] (page 129).**

2 **Select "OPERATION BEEP", and press the SET button.**

- If "ALL OFF" is selected and the SET button pressed, all the operation sounds are muted.
- If the MENU button is pressed, you are returned to the Option Screen.



TURN ON/OFF:
Mute or enable the sound that is produced when the power is turned on or off.

SHUTTER:
Select the sound that is produced when the [📷] button is pressed, or when a photo is taken using the self-timer.

KEY SW:
Select the sound that is produced when the SET button, MENU button, etc. are pressed.

AUDIO GUIDE:
Mute or enable the camera's audio help guide.

OPERATION VOL:
Adjust the volume of the operation sounds.

3 Toggle the SET button up or down to select the desired setting, and press the SET button.

- The screen to select operation sounds appears.

<If "TURN ON/OFF" or "AUDIO GUIDE" is selected>

- The respective screen to enable or disable the sound appears.
- Toggle the SET button up or down to select the desired setting, and press the SET button.
  ON: Activates the sound.
  OFF: Deactivates the sound.

<If "SHUTTER" or "KEY SW" is selected>

- The screen to select the operation sounds appears.
- Select from 8 different sounds (A to H).
- You can toggle the SET button right to preview the selected operation sound.
- If "OFF" is selected, no sound is produced.
- Toggle the SET button up or down to select the desired setting, and press the SET button.

<If "OPERATION VOL" was selected>

- The screen to select the volume for the operation sounds appears.
- You can select an operation sound volume from 1 (minimum) to 7 (maximum).
- Toggle the SET button up or down to select the volume, and press the SET button.

4 Press the MENU button.

- The operation sound settings are completed.

HINT

- If you keep the MENU button pressed and turn on the power, the screen to turn the operation sounds ON/OFF appears at once. You may find this a convenient procedure to disable the operation sounds in places you do not want them to be audible.

POST-VIEW DISPLAY SETTING

Specify the duration that the captured image appears on the monitor (post-view) after the [ ] button is pressed.

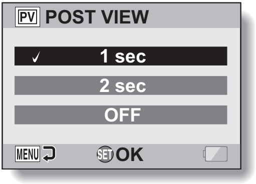
1 Display the Option Setting Menu [1] (page 129).

2 Select "POST VIEW", and press the SET button.

1 sec:
The post-view image is displayed for 1 second.

2 sec:
The post-view image is displayed for 2 seconds.

OFF:
The post-view image is not displayed.



3 Select the desired setting, and press the SET button.

- This completes the post-view setting.

ASSIGN SET BUTTON FUNCTIONS

Assign functions (operation shortcuts) to the SET button when it is toggled up, down, left or right when the Shooting Screen is displayed.

1 **Display the Option Setting Menu [2] (page 129).**

2 **Select "SHORTCUTS", and press the SET button.**

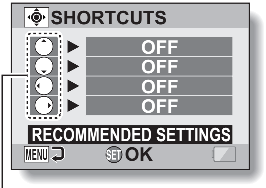
: Assign the function when the SET button is toggled up.

: Assign the function when the SET button is toggled down.

: Assign the function when the SET button is toggled to the left.

: Assign the function when the SET button is toggled to the right.

RECOMMENDED SETTINGS:
The most commonly used settings are automatically assigned.



SET button operations

3 **Select the SET button operation to which you wish to assign the function, and press the SET button.**

- The screen to assign a function to the key appears.

OFF: No operation shortcut is assigned to the key.

AF LOCK: Lock the focus (page 62).

AE LOCK: Lock the exposure setting.

FOCUS: Set the focus range (pages 57 and 93). (This operation shortcut can be assigned only to the or key.)

FLASH: Set the flash operation (pages 63 and 87).

EXP COMPENSATION: Adjust the exposure (page 104).

ISO: Set the ISO sensitivity (page 97).

SELF-TIMER: Set the self-timer (page 88).

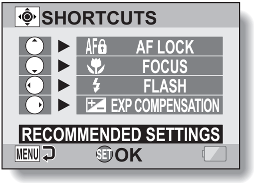
4 Toggle the SET button up or down.

- Display the function you wish to assign to the key.



5 Press the SET button.

- The selected function is assigned to the key, and you are returned to the Shortcuts Screen.
- To assign functions to the other keys, repeat steps **3** through **5**.



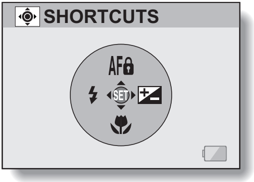
<When “RECOMMENDED SETTINGS” is selected>

6 Press the MENU button.

- The screen to confirm the shortcut settings appears, and then you are returned to the Option Setting Menu.
- This completes the shortcuts setting.

<To confirm the assigned shortcuts>

- On the screen in step **2**, press the MENU button, and the screen to confirm the shortcut settings appears.



NOISE-REDUCTION FUNCTION

Image noise when recording video clips or still images, as well as audio noise such as from the wind, can be minimized with the noise-reduction function.

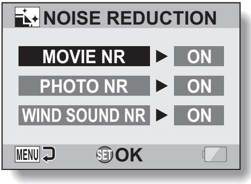
1 Display the Option Setting Menu [2] (page 129).

2 Select "NOISE REDUCTION", and press the SET button.

MOVIE NR:
Set ON/OFF the function to reduce image noise when recording a video clip.

PHOTO NR:
Turn ON/OFF the image noise reduction function during still image shooting.

WIND SOUND NR:
Turn ON/OFF the wind noise reduction function during video clip/audio recording.



3 Select the desired function and press the SET button.

- The screen to select "ON" or "OFF" appears.

ON:
Noise is reduced.

OFF:
Noise is not reduced.

4 Toggle the SET button up or down to select the desired setting, and press the SET button.

- This completes the noise reduction setting.

ADJUST THE IMAGE QUALITY

The camera can adjust the image quality as the image is captured.

1 Display the Option Setting Menu [2] (page 129).

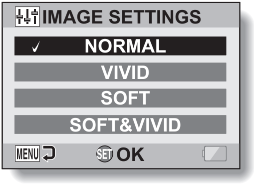
2 Select "IMAGE SETTINGS", and press the SET button.

NORMAL:
Shoot with image quality at normal.

VIVID:
Color saturation is increased.

SOFT:
The sharpness is subdued for a softer image.

SOFT&VIVID:
The sharpness is softened and color saturation is increased.



3 Select the desired setting, and press the SET button.

- This completes the image quality setting.

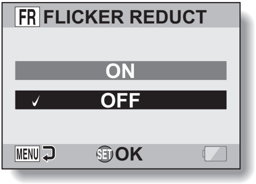
FLICKER-REDUCTION

The flicker-reduction setting reduces the flicker that results when filming video clips under fluorescent lights and the like where the background lighting pulsates at the frequency of the power supply.

1 Display the Option Setting Menu [2] (page 129).

2 Select "FLICKER REDUCT", and press the SET button.

ON:
Turns on the flicker-reduction setting.
OFF:
Turns off the flicker-reduction setting.



3 Select the desired setting, and press the SET button.

- This completes the flicker-reduction setting.

HINT

- If the flicker-reduction setting is used outdoors on a very bright day, a halation effect, which produces diffused rings of light around bright light areas, may occur.
- The exposure setting and flicker reduction function cannot both be enabled at the same time.
- When the flicker-reduction function is set to "ON", the shutter speed during video clip recording becomes 1/100 sec.

MONITOR BRIGHTNESS

Adjust the brightness of the camera's monitor display. Use this adjustment when the monitor image is difficult to view because of ambient lighting.

1 **Display the Option Setting Menu [2] (page 129).**

2 **Select "BRIGHTNESS", and press the SET button.**

3 **Toggle the SET button to the left or right to set the brightness, and press the SET button.**

- The monitor brightness is set.



HINT

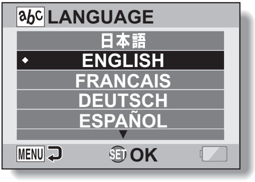
- The display in step **2** can also be accessed from the Shooting Screen. Press the MENU button for at least 1 second; the brightness control display will appear, and you can then adjust the monitor brightness.

SCREEN LANGUAGE

You can set the monitor of your camera to display the messages in any one of several languages.

1 **Display the Option Setting Menu [2] (page 129).**

2 **Select “LANGUAGE”, and press the SET button.**



日本語:	Japanese
ENGLISH:	English
FRANCAIS:	French
DEUTSCH:	German
ESPAÑOL:	Spanish
ITALIANO:	Italian
NEDERLANDS:	Dutch
РУССКИЙ:	Russian
PORTUGUÊS:	Portuguese
TÜRKÇE:	Turkish
한국어:	Korean
中文(简):	Chinese (simplified)
中文(繁):	Chinese (traditional)

3 **Select the desired language, and press the SET button.**

- The selected display language is set.

TV SYSTEM SETTING

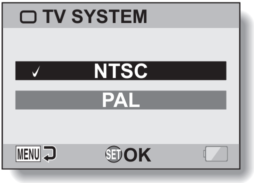
Specify the type of image signal that is output from your camera's USB/AV terminal.

1 **Display the Option Setting Menu [3] (page 129).**

2 **Select "TV SYSTEM", and press the SET button.**

- The TV System Screen appears.

NTSC:
Outputs NTSC video signals.
PAL:
Outputs PAL video signals.



3 **Select the desired setting, and press the SET button.**

- The selected TV system is set.

HINT

If no image appears on the TV...

- If the TV system setting is not correct for the connected equipment, no image will appear on the TV.

When set to "PAL" and connected to a TV using the included AV interface cable (page 155)

Shooting: Images are displayed on the monitor only and do not appear on the TV.
Playback: Images are displayed on the TV only and do not appear on the monitor.

POWER SAVE FUNCTION

Your camera has a “power save” function whereby the power automatically turns off after a specified period of inactivity. The power save function works to conserve the battery pack power when the camera is not being used, or to prevent the battery pack from dying if the camera has accidentally been left on. You can specify the elapsed time (standby time) before the power save function is activated.

1 **Display the Option Setting Menu [3] (page 129).**

2 **Select “POWER SAVE”, and press the SET button.**

RECORDING:
Set the standby time for the shooting modes when the battery pack is used.

PLAYBACK:
Set the standby time for the playback modes when the battery pack is used.



3 **Select the desired option, and press the SET button.**
- The Set Standby Time Screen appears.

4 **Toggle the SET button up or down to set the standby time.**
Up:
Increases the standby time.
Down:
Decreases the standby time.

5 **Press the SET button.**

6 **Press the MENU button.**
- The standby time is set.

FILE NO. MEMORY

If a newly formatted card is used, the file name (image number) of the captured image automatically begins from 0001. If the card is subsequently reformatted, or if a different reformatted card is used, the file names again begin from 0001. This is because the file number memory function is set to "OFF", and consequently it results in more than one card containing images with the same numbers. By setting the file number memory function to "ON", even if the card is reformatted or the card is replaced with another card, the consecutive numbering of file names continues from the last number recorded by the camera.

<File number memory function "OFF">

	File name (image number)
Card A	0001, 0002......0012, 0013

Replace card

Card B	0001, 0002......0012, 0013

<File number memory function "ON">

	File name (image number)
Card A	0001, 0002......0012, 0013

Replace card

Card B	0014, 0015....... 0025, 0026

- If Card B already has files in it when it replaces Card A, file names are assigned as follows.

  When the highest file number on Card B (before replacing) is lower than the highest file number on Card A: the file name of the next recorded image continues from last file name recorded on Card A.

Card A	0001, 0002 ..... 0012, 0013

Replace card

Card B	0001, 0002, 0014, 0015 ..... 0025, 0026

Previously recorded files: 0001, 0002

  When the highest file number on Card B (before replacing) is higher than the highest file number on Card A: the file name of the next recorded image continues from last file name recorded on Card B.

Card A	0001, 0002 ..... 0012, 0013

Replace card

Card B	0020, 0021, 0022, 0023 ..... 0025, 0026

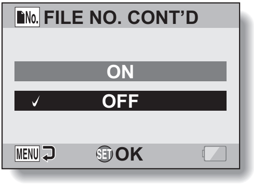
Previously recorded files: 0020, 0021

FILE NO. MEMORY

1 Display the Option Setting Menu [3] (page 129).

2 Select "FILE NO. CONT'D", and press the SET button.

ON:
The file number memory function is on.
OFF:
The file number memory function is off.



3 Select the desired setting, and press the SET button.

- The selected file number memory function is set.

HINT

- Until the file number memory function is turned "OFF", consecutive file names are assigned. It is recommended that the file number memory function be returned to "OFF" at the end of each photography session.

FORMATTING A CARD

A card must be formatted with this camera:

- After purchasing, when used for the first time, or
- If it was formatted using a personal computer or another digital camera.

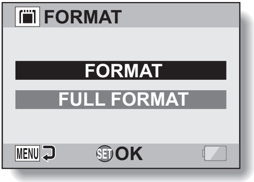
The card cannot be formatted if the lock switch is set to the “LOCK” position. Proceed with the format procedure after setting the lock switch to the unlocked position.

1 **Display the Option Setting Menu [3] (page 129).**

2 **Select “FORMAT”, and press the SET button.**

- In normal use, a full format is not necessary. However, in case a card error occurs even after normal formatting, executing a full format may resolve the problem.

FORMAT:
A normal formatting is executed.
FULL FORMAT:
The entire card is scanned and formatted. (When there is little battery power remaining, this setting cannot be selected.)



3 **Select the desired format option, and press the SET button.**

- A confirmation screen appears.

FORMATTING A CARD

4 Select "YES", and press the SET button.

- Formatting begins.
- During formatting, "Formatting" and "do not power off" are shown on the monitor.

CAUTION

Caution during formatting

- Do not turn off the power to the camera or eject the card during formatting.

Formatting erases the data

- When a card is formatted, all data recorded on the card is erased. Protected data (page 107) is also erased, so before formatting a card, any data you want to keep should be copied to your personal computer's hard disk or other storage medium.

Caution regarding disposing/transferring the card (recovering data from a reformatted card)

- If a card is reformatted or the data is erased from the card using the camera or a computer, the card's control data may be merely modified and the data itself may not be completely erased from the card.
- In some cases it may be possible to recover the data from a reformatted card using special software for that purpose. However, if the camera is used to execute a full format, it will be impossible to recover the data even by the use of data recovery software.
- If you are disposing of a card, it is recommended that you physically destroy it. If you are transferring the card to someone else to use, it is recommended that you use the camera's full format function to reformat the card, or use commercially available software for erasing card data. Managing data is the responsibility of the user.

HINT

To cancel formatting

- In step **4**, select "NO", and press the SET button.

RESETTING THE CAMERA SETTINGS

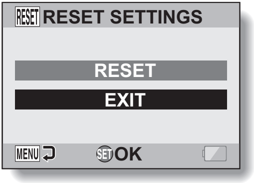
Reset the camera to the factory-preset settings.

1 Display the Option Setting Menu [3] (page 129).

2 Select "RESET SETTINGS", and press the SET button.

RESET:
Reset to the factory-preset settings.

EXIT:
Do not change the settings, and return to the Option Setting Menu.



3 Select "RESET", and press the SET button.

- The camera settings are reset to the factory-preset settings.

HINT

- Note that the following settings do not change with this procedure:
  Date and time setting
  Language setting
  TV system setting

OPTION SETTINGS

CHECKING THE REMAINING CARD MEMORY

You can check how many images can be captured and how much recording time is available on the card. For a table showing the maximum number of images and recording time for specific cards, please see “Possible No. of Images/Possible Shooting Time/Possible Recording Time” on page 204.

Checking the remaining number of images and video recording time

1 **Set the camera to the shooting mode (page 36).**

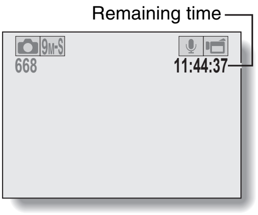
- The remaining number of images appears in the upper left of the monitor.
- The remaining video recording time appears in the upper right of the monitor.
- The remaining number of images and video recording time will differ depending on the resolution and compression settings.



For audio recordings

1 **Set the camera to the audio recording mode (page 81).**

- The remaining audio recording time is shown.



HINT

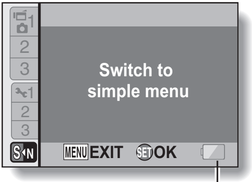
- When the remaining number of images or the remaining video recording time is “0”, you cannot capture any more images. To capture more images, either install a new card, or save the images to a computer and then delete them (page 73) from the card.
- When the remaining number of images or the remaining video recording time is “0”, it may be possible to capture a few more images by setting a lower resolution setting (pages 56, 78 and 79), or selecting a different image quality setting.

CHECKING THE REMAINING BATTERY PACK CHARGE

When using the battery pack, the remaining battery pack charge can be checked on the monitor. Make sure to check this indicator before capturing an image. For an indication of the possible length of time for battery pack operation, see page 203.

1 Display the Shooting Menu or Playback Menu (page 37).

- The battery pack remaining charge indicator appears in the lower right corner of the monitor.
- Due to the battery pack characteristics, when the ambient temperature is low, may appear early for an incorrect indication of the remaining charge.
  Also, depending on the conditions of use of the camera or the ambient conditions (temperature, etc.), the indicated remaining charge may change. Therefore, this indication can only be used as a general approximation of the remaining charge.



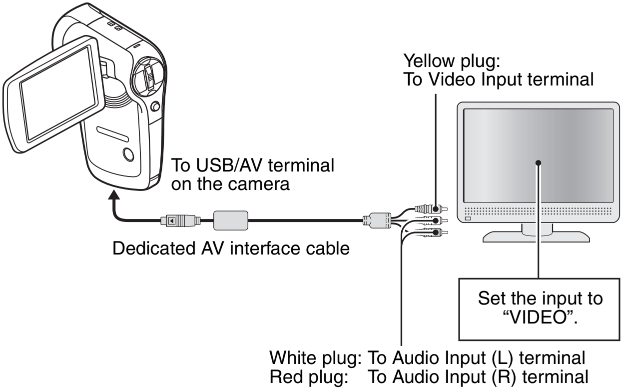
Battery pack remaining charge indicator

Battery pack remaining charge indicator	Battery remaining charge
No indication, or	Approx. full.
	Power is low.
	It will soon be impossible to capture or play back images.
	If this icon flashes when the [ ] button or [ ] button is pressed, images cannot be captured. Recharge the battery pack.

HINT

- If any file is present, you can also check the remaining battery pack charge on the Information Screen (page 128).
- Battery life may differ even among battery packs of the same type.
- Depending on the usage of the camera (such as the number of times the flash is used, the use of the monitor, etc.) or the ambient temperature (temperatures below 10 °C [50 °F]) the number of images that can be saved on a fully charged battery pack will vary greatly.
- It is recommended that you prepare an extra battery pack(s) when taking pictures at a wedding or while traveling, for example, so you don't miss capturing images of important moments due to the battery pack power running out. The same is recommended for taking photos in cold environments. (In a ski area, for example, the battery pack can be kept warm in your pocket until ready to use.)

CONNECTING TO A TV



NOTE

Insert and pull out the cable carefully

- When connecting the cables, make sure that the cable plugs are correctly oriented and that they match the shapes of the terminal sockets on the devices. Push the plugs in straight when connecting them. If undue force is used to connect a cable, it may permanently damage the connector pins in the terminal socket.
- Do not use excessive force when connecting and disconnecting cables.

Copying (dubbing) images to a DVD recorder

- Please refer to the section on “Dubbing” in the instruction manual for your DVD recorder.

PLAYING BACK ON A TV

- After connecting the camera to the television, switch the TV input to the terminal to which the camera is connected.
- When the camera is connected to a TV, no image appears on the camera's monitor.
- The playback method is the same as when viewing images on the camera's monitor.

  Audio playback: see page 82
- The same playback procedure as when playing back with the camera is used to play back audio recordings as well.

<About the image display>

When the camera is connected to a TV, the images appear either on the camera or the TV.

"TV SYSTEM" setting (page 142)		NTSC		PAL	
Supplied AV interface cable		Not connected	Connected	Not connected	Connected
Recording mode	Camera monitor	○	×	○	○
	TV	—	○ (Field of view 90%)	—	×
Playback mode	Camera monitor	○	×	○	×
	TV	—	○ (Field of view 90%)	—	○ (Field of view 90%)

○: Output ×: Not output

- If the dedicated AV interface cable is connected or disconnected during recording or playback, recording/playback is discontinued.

OPERATING ENVIRONMENT

When using as a card reader

Limited to models with the preinstalled OS

■ **Windows**
Windows 2000, XP, Vista

■ **Mac OS**
Mac OS X 10.3.6 or later

To access the files in the internal memory

- Remove the card from the camera before connecting the camera to a computer.
- The volume name becomes [XACTI_INT].

SETTING THE CONNECTION MODE

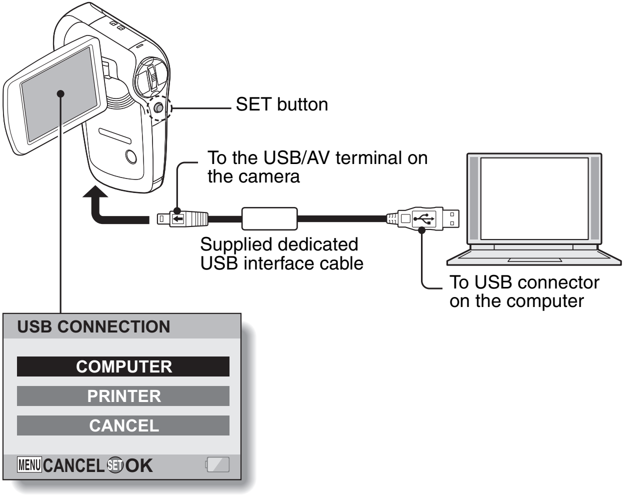
Use the dedicated USB interface cable to connect the camera to a computer.

1 **Start your computer, and use the supplied USB interface cable to connect your camera to the computer.**

- Connect the camera's USB/AV terminal to the computer's USB connector.

2 **Turn on the camera (see page 29).**

- The USB Connection Screen appears on the camera's monitor.



3 Select “COMPUTER”, and press the SET button.

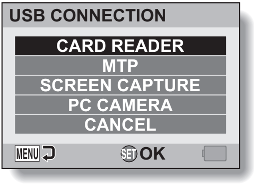
- The screen to select the computer connection mode appears.

CARD READER:
Use the camera as an external drive of the computer.

MTP:
Connect the camera in the MTP mode to a Windows Vista computer.

SCREEN CAPTURE:
Save an image of the computer screen in your camera.

PC CAMERA:
Use your camera as a PC camera.



4 Select the desired connection mode, and press the SET button.
<If the access menu (page 168) appears>

- If you do not wish to access the website, click on [Exit] to cancel the access menu.

CAUTION

Insert and pull out the cable carefully

- When connecting the cables, make sure that the cable plugs are correctly oriented and that they match the shapes of the terminal sockets on the devices. Push the plugs in straight when connecting them. If undue force is used to connect a cable, it may permanently damage the connector pins in the terminal socket.
- Do not use excessive force when connecting and disconnecting cables.
- Please connect the dedicated USB interface cable to your computer’s USB connector. Do not connect it to the USB port on your monitor or keyboard, or to the USB hub. Be especially careful when installing the driver software. In some instances, it may not be possible to correctly install the driver software.

Do not exchange data bi-directionally

- While copying data from the camera to the computer in the card reader mode, do not perform any operation that would copy the computer data to the camera.

USING AS A CARD READER

For Windows Vista/XP users

Mounting your camera

1 Set the camera to the card reader mode (page 158).

- The message [Found New Hardware] appears in the task tray, showing that the camera is recognized as a drive.
- The card is recognized (mounted) as a disk, and the [XACTI (E:)] icon appears in the [My Computer] window.
  * The drive name (E:) may be different on your computer.

2 Select an action.

- If the [XACTI (E:)] window appears automatically, select the desired procedure from the window.

Dismounting the camera

CAUTION

- To disconnect your camera, be sure to follow the procedure below. Failure to follow this procedure may cause faulty operation of your computer or loss of card data.

1 Left-click on the icon for safely removing hardware in the task tray.

- A list appears showing the devices connected to the computer's USB connector.

<Windows Vista>

- Close the window.

2 Left-click on the camera drive (E:).

- The camera can now be disconnected.
  * The drive name (E:) may be different on your computer.

USING AS A CARD READER

For Windows 2000 users

Mounting your camera

1 Set the camera to the card reader mode (page 158).
- If a message appears on the computer monitor instructing you to load the Windows CD-ROM, follow the instructions and install the driver.
- The camera is recognized as a drive, and [Removable disk (E:)] appears in the [My Computer] window.
  * The drive name (E:) may be different on your computer.
- The card is recognized (mounted) as a disk.
- Double-click on the [Removable disk (E:)] icon in [My Computer], and you can process the contents of the card installed in your camera exactly like you would the files in the other computer drives.

Dismounting the camera

CAUTION
- To disconnect your camera, be sure to follow the procedure below. Failure to follow this procedure may cause faulty operation of your computer or loss of card data.

1 Left-click on [Unplug or Eject Hardware] in the task tray.
- A list appears showing the devices connected to the computer's USB connector.

2 Left-click on the camera drive (E:).
  * The drive name (E:) may be different on your computer.
- The [Safe to Remove Hardware] dialog box will open.

3 Click on the [OK] button.
- You can now disconnect the camera.

For Mac OS X users

Mounting your camera

1 Set the camera to the card reader mode (page 158).

- The camera is recognized as a drive and appears as an icon named [XACTI] on the Desktop.
- Double-click on the [XACTI] icon, and you can process the contents of the files in your camera's memory exactly like you would the files in the other computer drives.

Dismounting the camera

CAUTION

- To disconnect your camera, be sure to follow the procedure below. Failure to follow this procedure may cause faulty operation of your computer or loss of data in your camera.

1 Drag the [XACTI] icon for your camera on the Desktop to the trashcan.

- The [XACTI] icon disappears from the Desktop.
- You can now disconnect your camera.

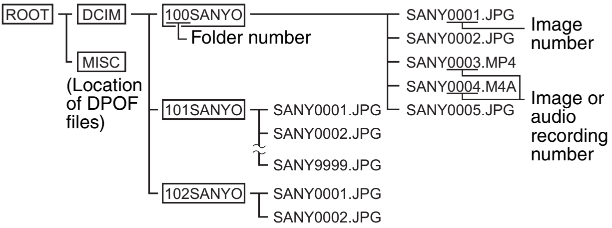
CAUTION

When using in a Mac OS X Classic environment

- It is not possible to save or load files directly to or from your camera. The files must first be saved once to your hard disk.

ABOUT THE CONTENTS OF THE CARD

Configuration of directories in the card



* Up to 9,999 files can be stored in folder 100SANYO. If more files are made, a folder named 101SANYO is created, and they will be stored in there. New folders will then be named in sequence, i.e., 102SANYO, 103SANYO, etc.

File formats

The format of the files saved and the method in which the file names are determined are explained below.

Type of file	File format	File name structure
Still image file	JPEG	File name begins with SANY. Extension is ".JPG". SANY****.JPG
Video clip file	MPEG-4	File name begins with SANY. Extension is ".MP4". SANY****.MP4
Audio recording file	MPEG-4 Audio (AAC compression)	File name begins with SANY. Extension is ".M4A". SANY****.M4A

* Consecutive numbers assigned in the order the files were saved.

Cautions when using as a card reader

- Do not alter files or folders in your camera in any way. Doing so may result in your camera not recognizing that data.
  If you want to edit files, first copy them to your computer's hard drive.
- Cards formatted on your computer cannot be used by your camera. Format all cards to be used by your camera with your camera.

HINT

About the volume name

- The volume name will be [XACTI] for a card that was formatted with the camera and [Removable disc] for a card that was formatted with a computer.

About video clip files recorded with this camera

- You can use Apple's QuickTime to play back video clips on a computer. Playback may be possible using other software that supports the ISO standard MPEG-4 AVC/H.264 (AAC audio).

About audio files recorded with this camera

- If you change the extension (.M4A) of audio files to ".MP4", playback may be possible using software that supports the ISO standard MPEG-4 (AAC audio).

About file names when the card is replaced...

- If the file number memory function is set to on, even when the card is replaced, consecutive numbering of folder numbers and file names continues from the previously installed card (see page 145).

USING AS A PC CAMERA

When connected to a Windows XP or Windows Vista computer, the camera can be used as a PC camera.

For Windows XP

Please perform the following upgrades before connecting the camera to a computer.

- Upgrade Windows XP to SP2.
  Install Windows XP SP2.
- Install Windows Messenger 5.0 or later version.
  Download Windows Messenger 5.0 or later version, and install it.
- If using MSN Messenger, please install MSN Messenger 7.0 or later version.

CAUTION

- The PC camera function can be used only with computers in which Windows XP or Windows Vista was preinstalled. Correct operation cannot be guaranteed for models that have been upgraded to Windows XP.
- The zoom cannot be used with the PC camera function. Moreover, only images can be recorded; audio files cannot be recorded.
- Although your camera can shoot at a maximum rate of 15 frames per second, the rate at which you can broadcast in the PC camera mode may be less than this depending on the speed of your Internet connection.

Using as a PC camera

1 Set the camera to the PC CAMERA mode (page 158).

USING THE SOFTWARE

Use the links on the Sanyo website for downloading software that enables you to use the data from your camera on a computer.
Before downloading the software, be sure to check the precautions described on the website.

Operating environment

	for Windows	for Mac OS
Operating System*1	Windows 2000, Windows XP, Windows Vista with standard USB port	Mac OS X 10.3.6 or later with standard USB port
CPU	Pentium D or faster	Power PC G5 2.0 GHz or faster
RAM	512 MB (1024 MB for Windows Vista) or greater	512 MB or greater
Video RAM	64 MB (Recommended 256 MB) or greater	64 MB or greater
Others	Internet connection*2	Internet connection*2

*1 Pre-installed model only.

*2 This camera does not come with software. Software for playback can be downloaded via the Internet.

USING THE SOFTWARE

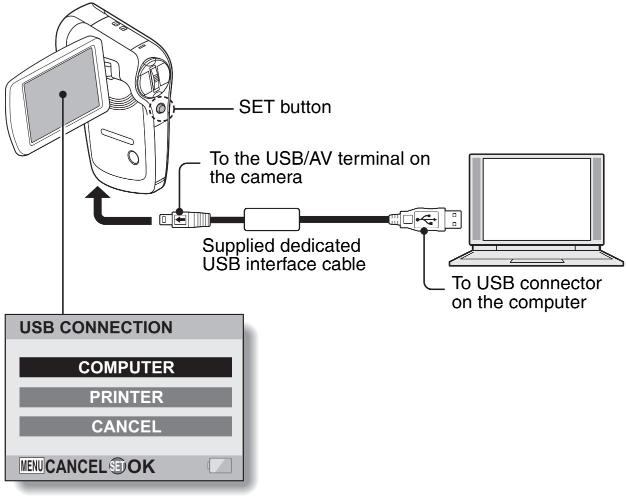
Obtaining the software

For Windows operating systems

1 Remove the card from the camera.
- The program to access the website is stored in your camera's internal memory. This program cannot be accessed while a card is installed in the camera.

2 Start your computer, and use the supplied dedicated USB interface cable to connect your camera to the computer.
- Connect the camera's USB/AV terminal to the computer's USB connector.

3 Turn on your camera (page 29).
- The USB Connection Screen appears on the camera's monitor.



4 **Select “COMPUTER”, and press the SET button.**

- The screen to select the computer connection mode appears.

5 **Select “CARD READER” and press the SET button.**

<For Windows users>

- The screen to access the website for this camera (access menu) appears.
- If the access menu does not appear, double-click on Autorun or Autorun.exe.

<For Mac OS users>

- When you double-click on the HTML file (index.html) in the camera drive, the screen to access the website for this camera (access menu) appears.

6 **Click on [Go to Xacti CG9 Web Support page].**

- The screen to select your desired language appears. When you click on a language selection, the website page introducing this camera opens.
- Select and download the desired software from the website.

HINT

If the Autorun, Autorun.exe or index.html file has been deleted...

- The Autorun or Autorun.exe and index.html files can be created by using the camera to format the camera's internal memory.

About the Kodak online service

- When you close the access menu, a dialog box to connect to the website introducing Kodak's online service appears. Check the [No thanks!] option button, and then click on the [OK] button.

To access the support page next time...

- When you close the access menu, a shortcut icon is created on your desktop so that you can easily access the support page in the future. The next time you wish to access the support page, just double-click on the desktop shortcut icon.

SAVE AN IMAGE OF YOUR COMPUTER SCREEN

The screen capture software (Screen Capture 1.1 [hereafter referred to as "Screen Capture"]) is used to save an image of the computer's screen display on the card installed in your camera.

Install Screen Capture

1 **Obtain the software (page 167).**

2 **In the CD-ROM drive, double-click the setup.exe in the folder below:**
D:\Screen Capture
The drive name (D:) may be different on your computer.
- Screen Capture 1.1 installation begins.
- The installation program is setup for correctly installing Screen Capture. For users unfamiliar with computers, it is recommended that you click on the [Next] button for each dialog box.
- If a software user registration dialog box appears, do not enter anything in the dialog box, and click the [Next] button.
- If a message prompting you to restart your computer appears, please restart your computer.

3 **Click the [Finished] button.**
- Installation is complete.

SAVE AN IMAGE OF YOUR COMPUTER SCREEN

How to use Screen Capture

1 **Set the camera to the screen capture mode (page 158).**

2 **Run Screen Capture.**

- Screen Capture is automatically launched when you start your computer.

<To quit Screen Capture>

- Right-click on [SANYO Screen Capture 1.1] in the task tray, and then left-click on [Exit]. When the screen to confirm appears, left-click on [Yes].
- To launch Screen Capture again, click [Start]→[Programs]→[SANYO Screen Capture 1.1].

3 **On the computer's monitor, display the window you wish to save.**

- Make the window you wish to save the active (selected) window.

4 **Press the [📷] button.**

- The currently displayed active window is saved in the camera's memory.
- When there is no active window, the entire screen display is saved.
- The saved file is stored in the \DCIM***SANYO folder in the drive for the camera.
- To exit Screen Capture, quit the application.

HINT

- To use Screen Capture, only one camera should be connected to the computer.
- The maximum file size that can be saved for any one screen capture is 12 MB.
- When running Screen Capture, do not turn off the camera or remove the card from the camera, as doing so may result in the loss of data. Also, do not use the computer to process the contents of the files in the camera's card, or the camera may not operate normally.

PictBridge MODE

Your camera supports the PictBridge function. By connecting the camera directly to a PictBridge-enabled printer, the camera's monitor can be used to select images and initiate printing (PictBridge printing).
Use the dedicated USB interface cable to connect the camera to a printer.

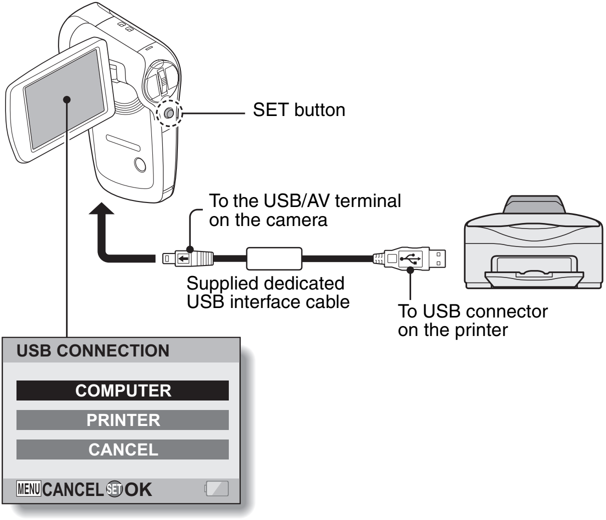
Print preparations

1 Turn the printer on, and use the supplied USB interface cable to connect the camera to the printer.

- Connect the camera's USB/AV terminal to the printer's USB connector.

2 Turn on the camera (page 29).

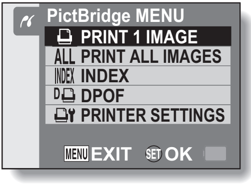
- The USB Connection Screen appears on the camera's monitor.



3 Select “PRINTER”, and press the SET button.

4 The PictBridge printing mode is activated.

- The camera switches to the PictBridge printing mode, and the PictBridge Menu appears.



CAUTION

Insert and pull out the cable carefully

- When connecting the cables, make sure that the cable plugs are correctly oriented and that they match the shapes of the terminal sockets on the devices. Push the plugs in straight when connecting them. If undue force is used to connect a cable, it may permanently damage the connector pins in the terminal socket.
- Do not use excessive force when connecting and disconnecting cables.

Caution when connecting a printer

- If the power to the printer is turned off while it is connected, the camera may not operate correctly. If the camera does not operate correctly, disconnect the USB interface cable, turn off the camera, and then reconnect the cable.
- During PictBridge printing, the camera’s button operation response is slower.
- If the camera is powered by the battery pack for printing, make sure that the remaining battery charge is sufficient.

PRINTING

Printing selected images

Procedure to select one still image and print it.

1 **Complete the printing setup (page 172).**

2 **Select the one image icon [print icon], and press the SET button.**
- The screen to select images for printing appears.



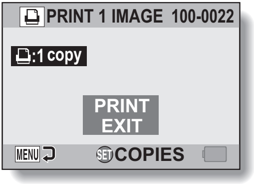
3 **Toggle the SET button to the left or right to display the image you wish to print.**
- Specify the image to print.

4 **Specify the number of prints.**

① Toggle the SET button up to select "COPIES", and press the SET button.

② Toggle the SET button up or down to specify the number of prints.

③ Press the SET button.
- "PRINT" is selected.



5 **Press the SET button.**
- Printing begins.

HINT

To cancel printing

① During printing, toggle the SET button down.
- The Confirm Cancel Printing Screen appears.

② Select "CANCEL", and press the SET button.
- If "EXIT" is selected and the SET button is pressed, printing resumes.

Printing all images

Print all of the images on the card.

1 Complete the print preparations (page 172).

2 Select the all images icon ALL, and press the SET button.

- The Print All Images Screen appears.

3 Select "PRINT", and press the SET button.

- Printing begins.



CAUTION

Printing is not possible if there are more than 999 still images in the card

- Delete unwanted images before printing.

Making an index print

Make an index print of all the images on the card.

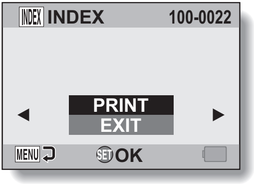
1 **Complete the print preparations (page 172).**

2 **Select the index print icon [INDEX], and press the SET button.**

- The Index Print Screen appears.

3 **Select "PRINT", and press the SET button.**

- Printing begins.



Printing images according to printing instructions (requested images)

Procedure to print all the ordered images.

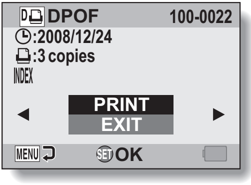
1 Complete the print preparations (page 120), and complete the print preparations (page 172).

2 Select the DPOF icon, and press the SET button.

- The Print Requested Images Screen appears.

3 Select “PRINT”, and press the SET button.

- Printing begins.
- Printing begins about 1 minute after the SET button is pressed.



HINT

- In step **2**, if you toggle the SET button to the left or right, you can view each image and confirm its printing instructions.

CAUTION

- Requested images printing is not possible if a printer is used that does not support your camera’s DPOF function.

Changing the printer settings

Images are printed according to settings specified by the camera, such as paper type, size, layout, printing quality, etc.

1 **Complete the print preparations (page 172).**

2 **Select the printer settings icon [icon], and press the SET button.**

- The Printer Settings Screen appears.

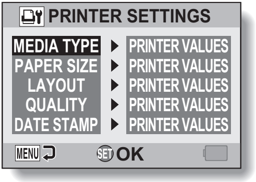
MEDIA TYPE:
Specify the type of paper used for printing.

PAPER SIZE:
Specify the size of paper used for printing.

LAYOUT:
Specify how the images are to be arranged on the paper.

QUALITY:
Select the print quality for the images.

DATE STAMP:
Print the date the photo was taken.



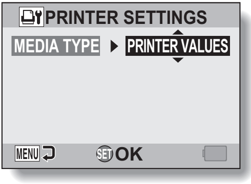
CONNECTING TO A PRINTER

3 **Adjust the printer settings.**

① **Toggle the SET button up or down to select a printer setting parameter, and press the SET button.**
- The screen to set the selected parameter appears.

② **Toggle the SET button up or down to adjust the setting, and press the SET button.**
- The selected parameter is set, and you are returned to the Printer Settings Screen.
- Follow the same procedure to adjust the other parameters, as desired.
- The contents of the settings that can be made for each parameter will differ depending on the printer.

<When "PRINTER VALUES" is selected>
- The images will be printed according to the settings specified on the printer side.



<When "MEDIA TYPE" is selected>

4 **Press the MENU button.**
- You are returned to the PictBridge Menu.

HINT
- The printer setting parameters will differ depending on the printer that is connected.
- To use printer functions which do not appear on your camera's Printer Settings Screen, select "PRINTER VALUES".
- If a function set by the camera is not available in the printer, the camera's printer settings will automatically change to "PRINTER VALUES".

COMMONLY ASKED QUESTIONS

If you have a question about the camera operation, you might find the answer in this compilation of commonly asked questions.

	Question	Answer	Action
Power	Why doesn’t the power turn on?	Due to cold temperatures, the battery pack temporarily lost its power.	Place the camera in your pocket to warm it up before using it.
	Why is the battery pack consumed so quickly even after it was fully recharged?	The ambient temperature is very low.	Keep the battery pack in an environment of 10 to 40 °C (50 to 104 °F).
	Why doesn’t recharging end?	The battery pack life has expired.	Replace with a new battery pack. If this is not effective, consult your dealer.
	Why does the  icon appear?	The remaining battery pack power is low.	Replace the battery pack with a fully charged one.
Shooting	Why does the multi-indicator flash red?	A recorded file is being saved on the card.	Not a malfunction. Wait until the multi-indicator turns off.
	Why doesn’t the flash operate?	The camera has determined that the image is bright enough and the flash is not necessary.	Not a malfunction. Capture the image; the camera will determine when the flash is necessary.

COMMONLY ASKED QUESTIONS

	Question	Answer	Action
Shooting	Are the settings retained even after the camera is turned off?	—	All settings except the self-timer and the exposure compensation are retained even after the camera is turned off.
	Which resolution setting should I use?	—	Select the resolution setting according to the intended use: 12M, 9M-H, 9M-S, 6.7M, 5M, 8M: Appropriate for printing letter-size or larger, and for printing a close-up of part of a photo (trimming). 2M, 2M: For printing standard photo (photo service) sizes. 0.3M: For photos displayed on a web page, or sent as e-mail attachments.

	Question	Answer	Action
Shooting	What is the difference between the digital zoom and the optical zoom?	—	Because shooting with the optical zoom uses the optics of a physical lens, you can shoot without losing minute details in the image. The digital zoom, on the other hand, works by magnifying a portion of the image that hits the image sensor and may produce a coarser image.
	How can I get the distant view into focus?	—	Set the scene select function to the landscape [landscape icon] mode when photographing. Or, set the focus range setting to manual focus [MF], and set the distance to ∞.
	The video clip I shot outdoors is completely white.	—	Set the flicker-reduction setting to off.

APPENDICES

COMMONLY ASKED QUESTIONS

	Question	Answer	Action
Monitor	When used in cold weather, why does the image seem to leave traces as it moves?	Condition due to the monitor characteristics.	Not a malfunction. Spots that appear in the monitor only appear in the monitor and will not be recorded with the images.
	Why does the displayed image contain some red, blue and green dots, or why are black spots visible?		
Viewing images	Why is the image too bright?	The subject was too bright.	When capturing an image, devise a way to compensate for a bright subject, for example, by changing the shooting angle.
	Why is the image out of focus?	The focus is not locked properly.	Hold the camera correctly and slowly press the [ ] button halfway to lock the focus. Then press the [ ] button all the way to capture the image.
	Why is a part of the image missing?	The image was captured at close range.	When capturing an image at close range, compose the image using the monitor.

	Question	Answer	Action
Viewing images	Why is there no image ([?] is shown)?	This may happen when trying to play back images stored on a card from a different digital camera.	Play back images that were recorded on a card using this camera.
	Why is the playback image distorted?	If the subject moves or the camera is moved during recording, a distorted image may sometimes occur.	Not a malfunction. This is a characteristic of the CMOS sensor.
	Why isn't the magnified image clear?	Due to the characteristics of the camera, magnified images appear less clear.	Not a malfunction.
	Why isn't the captured image clear?	The image was captured using the digital zoom.	Not a malfunction.
	Can I play back image and sound files that I edited using my computer?	—	We cannot guarantee the accurate playback of files that have been edited using a computer.
	Why is there a motor-like sound during video clip playback?	The sound of the camera's mechanical action was recorded.	Not a malfunction.

COMMONLY ASKED QUESTIONS

	Question	Answer	Action
Printing	Why does a message appear during PictBridge printing?	There is a problem with the printer.	Please refer to the instruction manual for your printer.
Misc.	The “Cannot edit video clips with unlike settings” message appears.	You have attempted to join video clips having different resolutions or frame rates.	Select video clips that have the same resolution or frame rate.
	Why does the “Card full” message appear?	There is no more available memory on the card.	Delete unnecessary files, or use a card that has more memory available.
	Why does the “Card is protected” message appear?	The lock switch on the card is in the locked (protect) position.	Move the lock switch to the unlocked position.
	Why can’t the camera be operated?	A temporary internal circuitry problem may be the cause.	Remove the battery pack from the camera, wait a few minutes, then reinstall the battery pack and try again.

	Question	Answer	Action
Misc.	A problem such as inability to record or play back occurs.	The card contains files that were saved using a device other than this camera.	After saving your files to a different medium, format the card.
	Can I use my camera abroad?	—	When the camera is connected to a TV, you can switch the camera's video output to NTSC or PAL. If you have questions about using the charger and power cord abroad, please consult with a dealer near you for advice.
	Why does the "System error" message appear?	A problem has occurred within the camera or card.	Check the following items: ① Remove the card and then install it again. ② Remove the battery pack and then install it again. ③ Install a different card. If "System error" still appears after performing the above steps, then take the camera to the dealer for service.

TROUBLESHOOTING

Before taking your camera to the repair shop, check the following table for a possible solution to the problem.

Camera

	Problem	Cause	Action	Reference page
Power	No power.	The battery pack is dead.	Recharge the battery pack, or replace with a new battery pack.	23, 26
		The battery pack has not been inserted correctly.	Reinsert the battery pack, making sure to orient it correctly.	
	A blinking temperature warning icon [temperature warning icon] is shown, and the camera does not turn on.	The battery pack is too hot.	Wait for the battery pack to cool down.	28
	The camera turns off by itself.	The power save function is operating.	Turn on the camera again.	30
Shooting	An image is not captured when the [camera icon] button or [video icon] button is pressed.	The power is not turned on.	If the power save function was activated, turn on the camera before shooting. If the camera was turned off, press the ON/OFF button to turn it on.	30

	Problem	Cause	Action	Reference page
Shooting	An image is not captured when the [📷] button or [🎥] button is pressed.	The maximum number of images that can be captured or the maximum video clip recording time has been reached.	Install a new card.	24
			Delete the images that are not necessary.	73
	The flash does not operate.	The flash off mode is selected.	Set the flash to automatic flash mode or forced flash mode.	63, 87
		The battery pack is dead.	Recharge the battery pack, or replace with a new battery pack.	23, 26
	The digital zoom does not work.	The still image is set to [12M]. The digital zoom setting is set to “OFF”.	Set the still image to [9M-H] or lower. Set the digital zoom setting to “ON”.	79, 102

APPENDICES

TROUBLESHOOTING

	Problem	Cause	Action	Reference page
Shooting	A warning tone (beep-beep-beep) sounds, and it is not possible to take a picture using the self-timer.	The battery pack is consumed.	Install a sufficiently recharged battery pack.	23, 26
	When zooming in or out, the zoom movement stops momentarily.	The optical zoom has moved to the maximum magnification position.	Not a malfunction. Release the zoom switch, and push it again.	67
	There is noise in the captured image.	The ISO sensitivity setting is too high.	Set the ISO sensitivity to a lower setting.	97
	When recording a video clip under fluorescent lights, a noticeable flicker appears in the image.	The camera is not set to the playback mode.	Set the ISO sensitivity to 200 or less.	97

	Problem	Cause	Action	Reference page
Shooting	The [icon] icon appears, and shooting is not possible.	The camera's internal temperature is high.	Discontinue shooting, and wait for the camera to cool down before using it again.	—
Monitor	No playback image appears.	The camera is not set to the playback mode.	Press the REC/ PLAY button to set the camera to the playback mode.	35

TROUBLESHOOTING

	Problem	Cause	Action	Reference page
Viewing images	The image is too dark.	The flash was blocked by a finger or other object.	Hold the camera correctly, and make sure the flash is not obstructed.	53
		The subject was too far away.	Capture the image in the range of operation of the flash.	202
		The subject was lit from behind.	Use the forced flash mode.	63, 87
			Use the exposure compensation function.	104
			Use the spot light-measuring mode.	96
		There is not enough light.	Adjust the ISO sensitivity setting.	97
	The video clip picture is flickering.	The video clip was filmed under fluorescent lighting.	Set the flicker-reduction setting to on.	139

	Problem	Cause	Action	Reference page
Viewing images	The image is too bright.	The forced flash mode is selected.	Select a different flash mode.	63, 87
		The subject was too bright.	Use the exposure compensation function.	104
		The ISO sensitivity setting is incorrect.	Set the ISO sensitivity to AUTO.	97
	Red-eye correction was not successful.	The red-eye effect area could not be recognized.	Not a malfunction.	110

TROUBLESHOOTING

	Problem	Cause	Action	Reference page
Viewing images	The image is not in focus.	The subject is too close to the camera.	Capture the image with the subject within the photographable range. Select the correct focus setting for your needs.	57, 95
		The focus setting is not correct.		
		The camera moved when the [camera icon] button was pressed. (camera shake)	Hold the camera correctly and slowly press the [camera icon] button halfway to lock the focus. Then press the [camera icon] button all the way to capture the image.	53, 61
		The focus is not locked properly.		
		The lens is dirty.	Clean the lens.	—

	Problem	Cause	Action	Reference page
Viewing images	The colors of the images captured indoors are not correct.	This is due to ambient lighting.	Capture the image using the forced flash mode.	63, 87
		The white balance setting is incorrect.	Set the white balance setting correctly.	99
	A part of the image is missing.	The strap or a finger was blocking the lens.	Hold the camera correctly, and make sure the lens is not obstructed.	53
	"No image" is shown.	There is no file in the installed card.	Play back after capturing images or making audio recordings.	—
	During audio playback, there is no sound.	The playback volume setting on the camera is too low.	Adjust the playback volume.	72
Connecting to a TV	There is no color in the image. The image is distorted.	The TV output setting is not correct.	Select the correct TV output setting.	142

TROUBLESHOOTING

	Problem	Cause	Action	Reference page
Connecting to a TV	No image or sound.	The camera is not correctly connected to the TV.	Follow the instructions to make the connection correctly.	142, 155
		The TV input is not set correctly.	Set the input on the TV to “VIDEO”.	
	The edge of the image is cut off.	This is a characteristic of the TV.	Not a malfunction.	—
Image editing	You cannot edit or rotate an image.	The protect mode is set.	Cancel the protect mode.	107
Charging	The battery pack is not charging.	Correctly insert the battery pack in the charger.	Make sure that the battery pack is correctly oriented when inserting it in the charger.	23
Misc.	The “No card” message appears.	No card is inserted.	Turn off the power and insert a card.	24
	The “Image is protected” message appears and the file cannot be deleted.	You have attempted to delete a file that is protected from accidental erasure.	Set the protect setting for the file to UNLOCK.	107

	Problem	Cause	Action	Reference page
Misc.	The audio guide does not sound.	The audio guide setting is set to “OFF”.	Set the audio guide setting to “ON”.	132
	The recording capacity is less than that indicated in the section “Possible No. of Images/ Possible Shooting Time/ Possible Recording Time” (page 204).	The recording capacity is less than the value specified for the card.	Depending on the card, the capacity may be less than the specified value. Please refer to the instructions that accompanied the card.	—
	The battery pack appears to be swollen.	Normal change occurring with battery use. Even with normal correct use of the lithium-ion battery, it has a tendency to swell as the number of charge and discharge cycles adds up and it gradually approaches the end of its service life.	Not a safety hazard. If the battery quickly becomes depleted, for example, it has reached the end of its service life. Replace it with a new battery pack.	—

Notes regarding the Scene Select feature and filters

Scene Select

Setting	Remarks
Sports	Focus range: cannot be selected.
Portrait	
Landscape	
Night view portrait	
Snow & beach	
Fireworks	Focus range: Fixed at . Flash: Fixed at .
Lamp*	Resolution: Only 2M or 0.3M can be selected. Focus range: cannot be selected. Flash: Fixed at . Still image NR: Fixed at “OFF”.

* When recording a video clip in dark surroundings, the shutter speed decreases to 1/15 sec in order to produce a sufficiently bright image. However, when the flicker-reduction function is set to “ON”, the shutter speed during video clip recording becomes 1/100 sec or 1/120 sec.

Filter

Setting	Remarks
Cosmetic [cosmetic icon]	Focus range: [super macro icon] cannot be selected.
Monochrome [monochrome icon]	
Sepia [sepia icon]	

About the scene select function and focus range settings

- The scene select function changes to [AUTO] when the focus range is set to [super macro icon].
- Even if you set the focus range to [standard icon], [super macro icon] or [MF], it changes to [normal icon] when the scene select function is set to any setting other than [AUTO].

APPENDICES

SPECIFICATIONS

Camera

Type	Digital Movie Camera (recording and playback)
Recorded image file format	**Still images:** JPEG format (DCF, DPOF, Exif 2.2 compliant) Note: Designed mainly by the Japan Electronics and Information Technology Industries Association (JEITA), DCF (Design rule for Camera File system) is standard for digital still camera image files to provide interoperability between digital photography devices for the images stored on removable memory cards. However, it is not guaranteed that all devices will support the DCF standard. **Video clips:** Conforms to ISO-standard MPEG-4 AVC/H.264* **Audio:** MPEG-4 audio (AAC compression) 48 kHz sampling rate, 16-bit stereo format
Data storage media	Internal memory: Approx. 40 MB SD Memory Card (accepts a maximum 32 GB SDHC Memory Card)
Image sensor/ Camera effective number of pixels	1/2.33-inch (1.1 cm) CMOS sensor, approx. 9.10 million pixels

Still image shooting mode (recording resolution)	12M: 4000 × 3000 pixels 9M-H: 3456 × 2592 pixels (approx. 9 million pixels: low compression) 9M-S: 3456 × 2592 pixels (approx. 9 million pixels: normal compression) 6.7M: 3456 × 1944 pixels (approx. 6.7 million pixels: 16:9 ratio) 5M: 1944 × 2592 pixels (approx. 5 million pixels, portrait orientation) 2M: 1600 × 1200 pixels (approx. 2 million pixels) 0.3M: 640 × 480 pixels (approx. 300,000 pixels) 8M: 3264 × 2448 pixels (approx. 8 million pixels, sequential shots) 2M: 1600 × 1200 pixels (approx. 2 million pixels, sequential shots)	
Video clip recording mode (recording resolution)	TV-HR: 640 × 480 pixels, 60 frames per second TV-SHQ: 640 × 480 pixels, 30 frames per second (high bit rate) TV-HQ: 640 × 480 pixels, 30 frames per second (standard bit rate) Web-SHQ: 320 × 240 pixels, 30 frames per second Web-HQ: 320 × 240 pixels, 15 frames per second * The 60 fps frame rate of this camera is 59.94 fps, the 30 fps frame rate is 29.97 fps, and the 15 fps frame rate is 14.985 fps.	
White balance	Full-auto TTL, manual setting possible	
Lens	Optical 5.0× zoom lens	f = 6.8 mm to 34.0 mm (35 mm film camera conversion 38 mm to 190 mm) Autofocus, 8 groups, 11 elements (including three with six aspheric surfaces) Galvanometer iris Internal ND filter
Aperture	Open F = 3.5 (Wide) to 3.7 (Tele)	

* Video clip files recorded with models VPC-CA65 and VPC-CG65 are in the same H.264 format as this model. However, such files cannot be played back, since they are not compatible due to differences such as the data compression method.

Exposure control type	Exposure compensation available from the Shooting Setting Screen (0 ±1.8 EV in 0.3 EV steps)
Light-measuring mode	Multi-section measuring, center-weighted measuring, spot measuring
Range	Total mode: 10 cm (3.94 in.) to infinity (Wide end) 80 cm (31.50 in.) to infinity (Tele end) Normal mode: 80 cm (31.50 in.) to infinity Super macro mode: 1 cm (0.39 in.) to 80 cm (31.50 in.) (Wide end only)
Digital zoom	For shooting: 1× to approx. 12× For playback: 1× to 62.5× (varies with resolution)
Shutter speed	Still image shooting mode: 1/2 to 1/1,500 sec. (Maximum approx. 2 seconds when scene select function set to lamp mode) (During flash: 1/30 to 1/1,500 sec.) Sequential shots mode: 1/15 to 1/1,500 sec. (no flash) Video clip recording mode: 1/30 to 1/10,000 sec. (1/15 sec. max.: when scene select function is set to lamp mode)
Sensitivity	Video clip recording mode: Auto (ISO 50 to 1600)/ISO 50, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600 (switchable from the Shooting Setting Screen) (Maximum ISO sensitivity up to ISO 3200: at high sensitivity mode setting or when scene select function is set to lamp mode) Still image shooting mode (standard output sensitivity*): Auto (ISO 50 to 400)/ISO 50, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600 (switchable from the Shooting Setting Screen) * Sensitivity measured in compliance with the ISO standard (ISO 12232:2006).

Minimum subject illumination	4 lux: [TV-SHQ], high sensitivity mode or scene select [lamp icon] function, 1/15 sec 15 lux: [TV-SHQ], scene select [AUTO] function, 1/30 sec	
Image stabilizer	Electronic (video clip recording mode or still image shooting mode)	
Monitor	2.5" (6.4 cm) TFT color liquid crystal, approx. 230,000 pixels	
Flash working range	GN = 4 Approx. 50 cm (19.69 in.) to 2.2 m (7.22 ft.) (Wide) Approx. 50 cm (19.69 in.) to 1.5 m (4.92 ft.) (Tele)	
Flash modes	Auto-flash, forced flash, flash off	
Focus	TTL-type AF (still image shooting mode: 9-point range finder/spot focus; video clip recording mode: Continuous focus), manual focus	
Self-timer	Approx. 2-second delay, 10-second delay	
Ambient environment	Temperature	0 to 40 °C (32 to 104 °F) (operation), –20 to 60 °C (–4 to 140 °F) (storage)
	Humidity	30 to 90% (operating, no condensation) 10 to 90% (storage, no condensation)
Power supply	Battery pack (supplied)	Li-ion battery pack (DB-L20): 1 supplied
	AC adaptor (sold separately)	VAR-G8 For use with DC adaptor VAR-A2 (sold separately)
Power consumption		3.4 W (When using the Li-ion battery during recording)
Dimensions (excluding protrusions)		73.8 (W) × 101.0 (H) × 38.6 (D) mm 2.91 (W) × 3.98 (H) × 1.52 (D) in. (Maximum dimensions) Volumetric capacity: Approx. 171 cc
Weight		Approx. 180 g (6.35 oz.) (camera only [without battery pack and card])

SPECIFICATIONS

Camera connectors

USB/AV (communication/audio and video output) terminal	Dedicated regrouped jack	
	Audio output	310 mVrms (–8 dBs), 2.2 kΩ or less, stereo
	Video output	1.0 Vp-p, 75 Ω unbalanced, sync negative, composite video, NTSC color TV system/PAL TV system (switchable from the Option Menu)
	USB	USB 2.0 High Speed PC camera: USB video class

Battery life

Shooting	Still image shooting mode	Approx. 195 images: CIPA standard (when a Hagiwara Sys-Com 512 MB SD Memory Card is used)
	Video clip recording mode	Approx. 70 minutes: Recorded in TV-SHQ mode
Playback		Approx. 160 minutes: Monitor on, continuous playback

- Until battery pack runs out when using a fully charged battery pack at a 25 °C (77 °F) ambient temperature.
- The operation time may vary depending on the conditions of the battery pack and the conditions of use. Especially when used at temperatures below 10 °C (50 °F), the battery pack operation time is significantly reduced.

Possible No. of Images/Possible Shooting Time/ Possible Recording Time

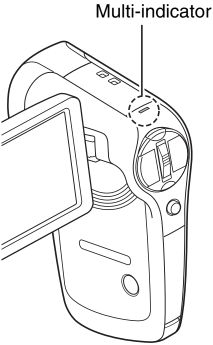
Shooting/ recording mode	Resolution setting	Internal memory	SD Memory Card	
			2 GB	8 GB
Still image mode	12M	10 images	504 images	2,020 images
	9M-H	9 images	449 images	1,800 images
	9M-S	14 images	674 images	2,700 images
	6.7M	19 images	898 images	3,600 images
	5M	25 images	1,190 images	4,780 images
	2M	64 images	2,950 images	11,800 images
	0.3M	331 images	15,500 images	62,200 images
	8M	16 images	756 images	3,030 images
	2M	64 images	2,950 images	11,800 images
Video clip mode	TV-HR	54 sec.	42 min. 40 sec.	2 hr. 51 min.
	TV-SHQ	1 min. 45 sec.	1 hr. 22 min.	5 hr. 32 min.
	TV-HQ	2 min. 33 sec.	2 hr.	8 hr. 3 min.
	WebSHQ	6 min. 43 sec.	5 hr. 16 min.	21 hr. 10 min.
	WebHQ	9 min. 42 sec.	7 hr. 35 min.	30 hr. 30 min.
Audio recording mode	—	41 min. 20 sec.	32 hr. 25 min.	130 hr.

- The maximum video clip continuous recording time is approx. 5 hours 30 minutes at the WebSHQ setting, and approx. 7 hours at the WebHQ setting.
- Up to 13 hours of continuous audio recording is possible.
- When recording a video clip using an 4 GB or more card, recording terminates when the size of the file currently being recorded reaches approx. 4 GB.
- The above values apply when an SD Memory Card by Sandisk is used.
- Even with cards of the same capacity, the amount of data that can actually be stored may differ depending on the card brand, etc.
- The continuous shooting time for each video clip will differ depending, for example, on the card capacity, environmental conditions (temperature and shooting conditions, etc.).

Concerning the multi-indicator

The camera's multi-indicator will light or flash depending on the different camera operations.

Color	Multi-indicator status		Camera status
Green	Lit		Connected to computer or printer (USB)
	Flashing		Power save mode activated
Red	Flashing	Slow	During self-timer operation
		Fast	Accessing internal memory/card data
Orange	Lit		Connected to TV/ VIDEO (AV)



Supplied battery pack charger

Part No.		VAR-L20NI
Power source		AC 100 to 240 V, 50 to 60 Hz, 10 VA, MAX: 0.1 A
Rated output		DC 4.2 V, 650 mA
Compatible batteries		Supplied or separately sold Lithium-ion battery pack (DB-L20)
Ambient environment	Temperature	0 to 40 °C (32 to 104°F) (when charging) –20 to 60 °C (–4 to 140°F) (storage)
	Humidity	10 to 90% (no condensation)
Dimensions		46 (W) × 21.2 (H) × 92 (D) mm 1.81" (W) × 0.83" (H) × 3.62" (D)
Weight (without power cord)		Approx. 55 g (1.9 oz.)
Power cord rated value	VPC-CG9	AC 125 V, 7 A
	VPC-CG9EX	AC 250 V, 2.5 A

- The VPC-CG9GX model is supplied with a power cord that is appropriate for the region of destination.
- When using the supplied battery pack charger abroad, the power cord may need to be replaced in accordance with local requirements. Please contact your local dealer for details.

Supplied Li-ion battery pack

Model number		DB-L20
Voltage		3.7 V
Capacity		720 mAh
Ambient environment	Temperature	0 to 40 °C (32 to 104 °F) (during use, when charging) –10 to 30 °C (14 to 86 °F) (storage)
	Humidity	10 to 90% (no condensation)
Dimensions		39.4 (W) × 6.0 (H) × 35.5 (D) mm 1.55 (W) × 0.24 (H) × 1.40 (D) in.
Weight		Approx. 19 g (0.7 oz.)

Others

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In this manual, the Microsoft® Windows® 2000 operating system, Microsoft® Windows® XP operating system, and Microsoft® Windows® Vista operating system are collectively referred to as “Windows”.
Software Red Eye by FotoNation™ 2003-2005 is a trademark of FotoNation® Inc.
Red Eye software© 2003-2005 FotoNation In Camera Red Eye - covered by U.S. Patent No. 6,407,777. Other patents Pending.

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- It is forbidden to copy this manual, whole or in part, without prior written permission.
- All images and illustrations given in this manual are for explanation purposes and may differ slightly from that of the actual product. Also, actual specifications are subject to change without prior notice and therefore may differ from the contents of this manual.

Before capturing those important shots, be sure to first take a test shot to confirm that your camera is set up and ready to go

- Sanyo Electric shall not be held responsible for any problems resulting from the use of this camera.
- Sanyo Electric declines all responsibility for damages due to improper use of the camera, failure to adhere to the instructions given in this manual, or repairs or changes done by those other than a technician authorized by the manufacturer.
- Sanyo Electric shall not be held responsible for any damage caused by optional devices or consumable items used with the camera other than those supplied with the camera or those specified by Sanyo Electric.
- Sanyo Electric shall not be held responsible for any losses or loss of revenue resulting from the loss of data caused by the malfunction, or the repairing of a malfunction, of the camera.
- The images captured with this camera will differ in quality from pictures taken with a standard film camera.

HINTS FOR TAKING PICTURES

Taking great pictures in difficult surroundings is easier than you might think. By keeping a few points in mind and choosing the correct settings, you can create photos that you'll be proud to display and share.

If images are blurred even when the autofocus is used

Your camera employs an autofocus function. When you snap a picture using the autofocus, the camera automatically adjusts the settings so that the image will be in focus. If you are getting blurred images even when using the autofocus, one or more of the following might be the reason.

■ **How the autofocus works**

The autofocus is activated when the [ ] button is gently pressed halfway. Press the [ ] button slightly, and the target mark will appear on the monitor to indicate that the autofocus has been activated. Next, continue to gently press the [ ] button all the way to snap the picture. This two-step method is the way to ensure that your photos are perfectly focused.

<The shutter speed and aperture are displayed>

- In the NORMAL mode, the shutter speed and aperture settings are shown on the Shooting Screen. You can use them as a reference when shooting.

■ **Reasons for unfocused images**

① The [ ] button was pressed all the way in one step.

② After the image was focused, the subject moved.
  - Even if camera focuses the subject once, if the distance between the camera and the subject is changed, the subject may become out of focus.

③ The focus setting is not set for the correct distance.
  - If you shoot a close-up subject with the camera set to the normal focus mode, or if you shoot a subject at normal distance with the camera set to the super macro (close-up) mode (pages 57 and 93), the image will not be in focus.

■ **Preventing blurred images**

① Confirm that the camera is set to the correct focus mode for your subject.

② Hold the camera correctly, and press the [ ] button halfway.

③ Wait for the target mark to appear in the monitor, and holding the camera steady, gently continue to press the [ ] button all the way down.

Following these steps for a gentle but firm pressing of the [ ] button will ensure that you get beautifully focused photos.

Photographing a moving subject

Situation: You would like to snap an action shot of a moving child or pet. The autofocus is activated, but because the subject is moving, the image may be blurred. In particular, when the distance between the camera and the subject is changing, it is difficult to lock the focus on the subject. Here are some hints for successfully capturing images of moving subjects.

■ Reasons for unfocused images

When the [ ] button is gently pressed halfway, the camera's autofocus works by determining the distance between the camera and the subject. Once the subject is in focus, if it then moves before the picture is snapped, the image may be out of focus. This often happens when you once lock the focus on a subject and then wait for the right moment to snap the picture. And, conversely, a blurred image may result if you press the [ ] button all the way in one step in an attempt to quickly capture an action scene, thus failing to activate the autofocus in time.

■ Preventing blurred images (How to use the manual focus [page 94])

In addition to the autofocus, a manual focus mode is also incorporated in your camera. In the autofocus mode, the distance between the camera and the subject is automatically determined when you press the [ ] button halfway. In contrast to this, with the manual focus mode, you manually set the focus by specifying the correct distance between the camera and the subject before taking the picture.

■ How to photograph a moving subject

① Set the camera's focus mode to the manual focus. Set the focus distance to the correct distance between the camera and the subject.

② When the subject is at the set focus distance, gently press the [ ] button all the way down.

<Advantage of using the manual focus>

- Images can be quickly captured without waiting for the autofocus to activate.
- Because you are presetting the focus distance, the focus can be more accurate.

<Using the manual focus effectively>

- When photographing a moving subject, press the [ ] button just before the subject reaches the focus distance, and the shutter will be released when the subject is at the correct distance.
- Use manual focus to avoid incorrectly focused images when there is an object between the camera and the subject you wish to focus on.

HINTS FOR TAKING PICTURES

Shooting portraits (portrait mode [portrait icon])

Points:
- Choose a background that doesn't detract from your subject.
- Move in close to your subject.
- Pay attention to lighting and how it affects your subject.

NOTE
- If the background is distracting, it will not show your subject to his best advantage. Move in closer to your subject or zoom in so that the background does not compete with the subject.
- In portrait photography your subject is clearly the central figure, so try techniques that allow the subject to stand out.
- If light is coming from behind your subject (backlit), his face will appear dark. You can get a better picture by using the flash, for example, or changing the exposure compensation setting.

Photographing moving subjects (sports mode [sports icon])

Points:
- Match the camera's movement with that of the subject.
- Set the zoom to the Wide end (wide-angle).
- Don't be too hesitant to press the [[camera icon]] button, or you'll miss the action.

NOTE
- Tips to not missing those great action shots: Make sure you're holding the camera correctly. Keep the subject in the lens at all times, moving the camera with him while waiting for the right shot. Move your whole body–not just your arms–with the camera while shooting.
- Blurred images are more likely when the zoom is set to the Tele end than the Wide end. Set the zoom as close as possible to the Wide end.
- Learn to press the [[camera icon]] button quickly yet smoothly the instant your photo chance occurs.

Night photography (night view portrait mode)

Points:

- Avoid camera shake.
- Increase the ISO sensitivity.

NOTE

- Camera shutter speed during night photography is considerable slower, so there is a much greater chance that your photographed images will be blurry. Stabilize the camera when shooting.
- You can photograph your subject with the night scene in the background by using the flash. Be careful not to shoot too close to the subject, however, or your subject's face will appear too bright.
- After the flash operates, keep the camera and the subjects motionless for about 2 seconds.

Photographing scenery (landscape mode)

Points:

- Shoot using a high resolution.
- For zoom photography, use the optical zoom.
- Pay attention to picture composition.

NOTE

- When shooting with a wide-angle setting, or if you intend to enlarge the photo, the higher the resolution, the better.
- To zoom in on distant scenery, it's better to use the optical zoom. Using the digital zoom produces a coarser image. Hold the camera securely, keeping your elbows close to your body and making sure the camera is stable. Taking care to stabilize the camera will increase the likelihood of getting a clear photo.
- Don't forget to pay attention to picture composition; note perspective and be aware of how the placement of objects affects the scene.

SANYO Electric Co., Ltd.